ESTD:2008

NSRIT NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE,New Delhi & Permanently Affiliated to JNTUK, Kakinada)

Recognized under Section 2(f) & 12(B) of the UGC Act, 1956| Accredited by NAAC with 'A' Grade

AQAR 2022-23

Summary of 3.4.3 Details of research papers per teacher in CARE Journals notified on UGC

S.NO	Nature of the Publication	Total Publications 2022-23
1	SCI	3
2	SCOPUS	40
3	Web of Science	1
4	UGC Approved	59
5	Others	21
	TOTAL	124

Director
N.S. Raju Institute of Technology (A)
Sontyam, Visakhapatnam-531173

3.4.3 Details of research papers per teacher in CARE Journals notified on UGC website during the year 2022-2023

S. No	Department of the Author(s)	Title of the Paper	Name of the Author(s)	Name of the Journal	Month of Publication	Year of Publication	ISSN	Page numbers	Nature of publication (Scopus/ SCI/ WOS/ etc..)	Publication Web Link
1	EEE	Energy Management for PV Powered Hybrid Storage System in Electric Vehicles Using Artificial Neural Network and Aquila Optimizer Algorithm	N Narasimhulu, RSR Krishnam Naidu, P Falkowski-Gilski	Energies	NOV	2022	Volume 15 ¦ Issue 22	8540	SCI	https://www.mdpi.com/1996-1073/15/22/8540
2	EEE	SI-VM based High Gain Non-Isolated DC-DC Converter for DC Microgrid	Gedela Ashish, R. Amaleswari, R.S.R. Krishnam Naidu	International Journal of Innovative Research In Technology	MARCH	2023	2349-6002	275-279	UGC	
3	EEE	Review On Analysis Of Dc-Dc Converters For Microgrid And Electrical Vehicle Applications	Amaleswari R,A.Bhagat,Ch. Janani,G. Srinivas,N. Ramesh	Journal of Pharmaceutical Negative Results	DEC	2022	0976-9234	5098-5103	Scopus	https://www.pnrjournal.com/index.php/home/article/view/5485
4	EEE	Simulation of Reduced Switch Multilevel Inverter With New Topology For Less THD	Dhineshkumar Krishnan, Prakash G, N Vengadachalam, RAmaleswari, K.Eswaramoorthy	2022 International Conference on Computer, Power and Communications (ICCPC)	DEC	2022	--	621-626	Scopus	https://ieeexplore.ieee.org/document/10072047
5	EEE	Implementing Heuristic Based Controller In Renewable Energy Based Smart Grid System	Mr. P.Mahesh,, Dr. R.S.R. Krishnam Naidu, Y. Naga Sowmya Sree, A. Aswini, J.Ashok kumar,, K.Vamsi krishna	Journal of Pharmaceutical Negative Results	DEC	2022	Volume 13 ¦ Special Issue 7	5054-5065	Scopus	https://www.pnrjournal.com/index.php/home/article/view/5480/6624
6	EEE	Review On High Voltage Direct Current (Hvdc) Transmission System	Mr.K.M.M. Tarakesh, Ms.Ch. Chudamani, Mr.D. Dinesh, Ms.B. Priyanka	Journal of Pharmaceutical Negative Results	DEC	2022	Volume 13 Special Issue 7	5066-5077	Scopus	https://www.pnrjournal.com/index.php/home/article/view/5481
7	EEE	A Review on Decentralized Control Techniques in a Microgrid using various Hybrid Energy Storage Systems	Mrs V. Usha Rani, A. Divya, A. P. Vinay, K. D. Sai Charan, I. Janarthan Kumar	Journal of Pharmaceutical Negative Results	April	2023	Volume 14 ¦ Special Issue 3	2349-6002	Scopus	https://www.pnrjournal.com/index.php/home/article/view/8406
8	EEE	Review on MPPT Techniques	Mr.A.Bala Raja Ram , Dr.R.S.R.Krishnam Naidu , Mr.K.Uma Maheswar , Ms.N.Divya , Mrs.S.Vasanthi , Mr.D.V.Sai Rakesh	Journal of Pharmaceutical Negative Results	DEC	2022	Volume 13 ¦ Special Issue 7	6829 - 6836	Scopus	https://pnrjournal.com/index.php/home/article/view/5931
9	EEE	THD Reduction And Power Quality Improvement In Grid Connected PV System Using PI Controller	Mrs.S.Yamini, Ms.K.Revathi,Mr.Uday Srinivas ,Ms.P.Yerni baby.	Journal of Pharmaceutical Negative Results	DEC	2022	Volume 13 ¦ Special Issue 7	5091-5097	Scopus	https://www.pnrjournal.com/index.php/home/article/view/5483
10	EEE	A Review on Brushless Dc Motor Control Techniques	Mr B Divakar,Dr RSR Krishnam Naidu, G Mani Deepak, G Divya, S Yugandhar, D Sindhusha	Journal of Pharmaceutical Negative Results	DEC	2022	Volume 13 ¦ Special Issue 7	6821-6828	Scopus	https://www.pnrjournal.com/index.php/home/article/view/5930
11	EEE	A Review on Autonomous Vehicles And Its Components	Mr.K.Naveen,M.Lokesh,K.N.J.L.Verma,P.S.V.Teja	Journal of Pharmaceutical Negative Results	DEC	2022	Volume 13 ¦ Special Issue 7	6916-6922	Scopus	https://www.pnrjournal.com/index.php/home/article/view/5962
12	EEE	Methodologies In Battery Management System For Electric Vehicles	D. Sahitya Devi,Amaleswari R,Rakesh Buddha,Nishank Baba Gajula,Charan Kumar Reddy Neelapu	Journal of Pharmaceutical Negative Results	DEC	2022	0976-9234	5078-5090	Scopus	https://www.pnrjournal.com/index.php/home/article/view/5482
13	BS&H	Evaluation of Anti-microbial and Antifungal Activities of Nano-TiO2 Assembled with graphene Composites	Krishna Vaddadi, Muralasetti Nookaraju & Ryali Somasekhar	Middle East Journal of Applied Science &Technology	DEC	Jul-05	Vol. 5 Iss-4	2580-0974		
14	ME	A Review Study On The Torch Positions In Pulse Mig Welding Process	Ch.V.V.S.S.R. Krishna Murthy, M.Yogendra, B. Sankar Rao, K. Sai Teja, P VAYUNANDA SAI KUMAR, S. Talukder, Y. Rohith D. Mohan	Specialusis Ugdymas / Special Education		Jul-05	Volume 13, Special Issue 9, 2022	9114-9118		
15	ME	Experimental Analysis of Heat Transfer rate on Plain and Biphillic Surfaces using Condensation methods	Ch. V. V. S. S. R. Krishna Murthy, P. Prem Kumar, J. Leeladhar, K. Tarun Teja, K. Satish, M. Demudu Babu, K. Mohan Rao, M.V.M. Patrudu, N. Narendra Yadav, V. Durga Mahesh	Journal of Pharmaceutical Negative Results		Jul-05	Volume 13, Special Issue 9, 2022	8928-8945		

16	ME	A Review Study On The Bev (Battery Electric Vehicles), Journal of Pharmaceutical Negative Results	D. VIVEK, MOHAMMAD BASHEER UDDIN, K. VENKATESH , G. RAKESH, T. PRUDHVI GUPTA, P. DILLESWAR RAO, K. RAM PRASAD, P N E NAVEEN	Journal of Pharmaceutical Negative Results	June	Jul-05	Volume 13, Special Issue 9, 2022	9119-9129	Scopus	
17	ME	Beach Pollution: A Review	G. Anil Kumar, G. Jaya Krishna, R. Arun Kumar, M. Divakar, P. Naveen, B. Ganesh, N. Pallavi Senapati, P.N.E.Naveen	Journal of Pharmaceutical Negative Results	June	Jul-05	Volume 13, Special Issue 9, 2022	10057-10061	Scopus	
18	ME	Design And Analysis Of Cold Plate For Satelite Applications	Nakka Suneel Kumar, Koilada Abhinash, P N E Naveen	Journal of Pharmaceutical Negative Results	June	Jul-05	Volume 13, Special Issue 9, 2022	9105-9113	Scopus	
19	ME	Review on Configuration Of Power Split Hybrid Electric Vehicles	S. Manoj Kumar, D. Praneeth vardhan, G. Bhaskar, Devi Siva rasad, Atchuth, Roshan, G. Siva Sai ram	Journal of Pharmaceutical Negative Results	Jan	Jul-05	Volume 14, Issue 3, 2023	1593-1596	Scopus	
20	ME	Design and Fabrication of Multipurpose Rugged Cutting Machine for Agriculture	S. Lokesh, M. Gowtham Sai, Nasrat Bhanu, P. Charan Teja, B. Sankara Rao, D. Paresh, A. Manoj Kumar, D.H.V. Manish Reddy, V. V. S. S. R. Krishna Murthy. Ch	International Journal of Research Publication and Reviews	April 2023	Jul-05	Vol 4, no 4, pp 1134-1139 April 2023	1134-1139		
21	ME	Design and Analysis of Turbo Jet Engine	M. Sudheer, P. Shyam, S. Jaswanth, U. Pavan Kumar, V. V. S. S. R. Krishna Murthy	International Journal of Research Publication and Reviews	April 2023	Jul-05	Vol 4, no 4, pp 1206-1213 April 2023	1206-1213		
22	ME	Design and Fabrication of Real Time Voice Operated Wheelchair cum Bed	R. Revathi Nandu Kumar, Y. Venkata Sai, M. Jayaram , S. Venkatesh, D. Vamsi, G. Vamsi, K. Yuvaraj, B. Bharani sai, K. Ram Prasad	nternational Journal of Research in Engineering and Science (IJRES) ISSN (Online): 2320-9364, ISSN (Print): 2320-9356 www.ijres.org Volume 11 Issue 4 ǁ April 2023 ǁ PP. 231-235	April 2023	Jul-05	ISSN (Online): 2320-9364, ISSN (Print): 2320-9356 www.ijres.org Volume 11 Issue 4 ǁ April 2023 ǁ PP. 231-235	231-235		
23	ME	Design and Fabrication of Die Using CNC-Milling Machine	B. Jagadesh Sai Kumar, K. Chandra Kiran, B. Swaroop, D. Charan , K. Jayanth, B. Sai Dileep, G. Ravi Teja, K. Praneeth, K.Ram Prasad, P.N. E. Naveen	International Journal of Research Publication and Reviews	April 2023	Jul-05	Vol 4, no 4, pp 1259-1263, April 2023, www.ijrpr.com ISSN 2582-7421	1259-1263		
24	ME	Fabrication and Experimental Investigation of Compressed Air Engine	Pittala Sai Radha Krishna , D. Naveen Kumar , G. Dinesh , G. Uday Kiran , K. Sai Sumanth , K. Varun Kumar , K. Vamsi Krishna, A. Durga Dalinaidu, J. Lakshman	International Journal of Research Publication and Reviews	April 2023	Jul-05	Vol 4, no 4, pp 1579-1583, April 2023, www.ijrpr.com ISSN 2582-7421	1579-1583		
25	ME	Design and Fabrication of Agricultural Smart Seeding and Spraying Robot	Ch.Karthik, D. Sai Ganesh, G. Anil, K. Ganesh, V. Tarun,M. Vykunteswara Rao, P. Mahalaxmi Naidu, P. Nagaraju, K. Abhinash	International Journal of Research Publication and Reviews	April 2023	Jul-05	Vol 4, no 4, pp 1159-1165, April 2023, www.ijrpr.com ISSN 2582-7421	1159-1165		

26	ME	FABRICATION OF ABRASIVE JET MACHINE	A.Ganesh,D.Chaitanya,G.Srinivas, A.Srinivas, S.Bharath kumar, M.Manoj kumar,K.Trinath, S.Tharun kumar, ,T.T.V.S.R.Krishna Kumar, P.N.E.Naveen	International Research Journal of Modernization in Engineering Technology and Science (Peer-Reviewed, Open Access, Fully Refereed International Journal)	April 2023	Jul-05	Volume:05/Issue:04/April-2023, Impact Factor-7.868, e-ISSN: 2582-5208, www.irjmets.com, DOI : https://www.doi.org/10.56726/IRJMETS35574	1216-1220		
27	ME	IoT BASED TYRE PRESSURE MANAGEMENT SYSTEM, © 2023 JETIR April 2023, Volume 10, Issue 4 www.jetir.org (ISSN-2349-5162)	P. VAMSHI, T.SAI SANDEEP, S. BHASKAR RAO, P. HARISH, M. MOHIT, L. BHARGAV, M.S. DANUSH KUMAR, L. GOPINADHAM, B. USHA RANI, P.N.E. NAVEEN	IoT BASED TYRE PRESSURE MANAGEMENT SYSTEM, © 2023 JETIR April 2023, Volume 10, Issue 4 www.jetir.org (ISSN-2349-5162)	April 2023	Jul-05	April 2023, Volume 10, Issue 4 www.jetir.org (ISSN-2349-5162)	b738-b742		
28	ME	Design and Fabrication of Beach Cleaning Vehicle	B. Sai Charan, K. Vijaya Kumar, B. Nitish Kumar, B. Pavan, B. Vikas, D. Harsha Vardhan, G. Manikanta, G. Anil Kumar, G. Siva Sai Ram, P.N.E. Naveen	International Journal of Research Publication and Reviews	April 2023	Jul-05	Vol 4, no 4, pp 1573-1578, April 2023, www.ijrpr.com ISSN 2582-7421	1573-1578		
29	ME	Design and Fabrication of Library Management Robot	N. Venkata Surya Teja, Sai Seetha, G. Dileep Kumar , M. Chiranjeev Varma, P. Raja, T. Kodandaram, K.	Design and Fabrication of Library Management Robot, International Journal of	April 2023	July 1905	ISSN (Online): 2320-9364,	248-254		
30	ME	Fabrication of Line Follower Robot	S. Raj Kumar, V. Guna Sekhar, L. Keerthi, S. Suresh Kumar, V. Dinesh, V. Mouli, V. Yagneswara Swamy, L. Satti Babu, N. Pallavi, P.N.E. Naveen	International Journal of Research Publication and Reviews	April 2023	July 1905	Vol 4, no 4, pp 1460-1465, April 2023, www.ijrpr.com ISSN	1460-1465		
31	ME	FABRICATION OF REAL TIME MULTI PURPOSE SOLAR BASED AIR CONDITIONING SYSTEM.	N. RAJEEV LOKESH, B. UDAY SAI, M. JAGADEESH, S.DINAKAR , R. VISWA TEJA, K.HARISH , P. YEERI NAIDU, V. MOHIT KUMAR, B. USHA RANI	Journal of Emerging Technologies and Innovative Research (JETIR)	April 2023	July 1905	Volume 10, Issue 4 www.jetir.org (ISSN-2349-5162).	c30-c34		
32	ME	Fabrication of Motorized Tri E-Cycle	Nani Babu, A. Lakshman, B. Manoj Kumar, B. Krishna Prasad, N. Lakshman Reddy, R. Vinay Kumar, V. Mahesh, M. Chaitanya, N. Suneel Kumar	International Journal of Research Publication and Reviews	April 2023	July 1905	, Vol 4, no 4, pp 1166-1171, April 2023, www.ijrpr.com ISSN 2582-7421	1166-1171		
33	ME	Design and Analysis of Knockout Drum	Ch. Pavan Kalyan,. Mohan Babu, G. Vivek, G. Naveen, B. Usha Rani	International Journal of Research Publication and Reviews	April 2023	Jul-05	Vol 4, no 4, pp 1054-1060 April 2023, www.ijrpr.com ISSN 2582-7421	1054-1060		
34	ME	Automation of Home Appliances Using Bluetooth	D. Bala Venkata Kishor, A. Hemanth Kumar, B. Arvind, C. Eswara Narayana Raju, G. Kumar Sai Pavan, D. Lakshmi Narasimha, G. Lahar, D. Satish, B. Usha Rani, P. N.E. Naveen	International Journal of Research Publication and Reviews	April 2023	15-Jul-05	Vol 4, no 4, pp 1043-1047 April 2023, www.ijrpr.com ISSN 2582-7421	1043-1047		

35	CSE	A Bibliometric Survey on Tsetlin	Rayudu Srinivas,P E S N Krishna Prasad	European Chemical Bulletin 2023	2022	June	Volume 12,Special Issue-6 ISSN 2063-5346	3138-3164	Scopus	https://www.eurchembull.com/uplo
36	CSE	A Systematic Review on the Methods Developed to Detect COVID-19 Patients	Rayudu Srinivas, Anil Kumar Muthevi, N.Praveen, Shaik. Vahida, Surya Lakshmi Kantham Vinti, N.Madhuri	European Chemical Bulletin 2023	2022	June	Volume 12,Special Issue-6 ISSN 2063-5346	3165-3174	Scopus	https://www.eurchembull.com/uplo
37	CSE	Efficient adaptive enhanced adaboost based detection of spinal abnormalities by machine learning approaches	R.V.S.Lalitha,P.E.S.N.Krishna Prasad,T.Rama Reddy,Kayiram Kavitha,Rayudu Srinivas,B.Ravi Kiran	Biomedical Signal Processing and Control	February	2023	Volume 8,Part 2 ISSN: 1746-8094	01 to 09	Scopus	https://doi.org/10.1016/j.bspc.2022.104367
38	CSE	Review on Technologies and Tools of Big Data Analytics	P.Kavya,B.Vineela,G.Bindu Madhavi,K.Vahini Sai Saranya,M.Likitha	Journal of Pharmaceutical Negative Results	December	2022	Volume 13, Special Issue 7 2022 0976-9234	5036-5045	Scopus	https://www.pnrjournal.com/index.php/home/article/view/5478
39	CSE	Exploratory Of Data Visualization With Tools	T.V.S.Sriram,P.Raju,B.Balaji Kumar Reddy,K.Paresh,S.Pavan Sai Kumar	Journal of Pharmaceutical Negative Results	December	2022	Volume 13, Special Issue 7 2022 ISSN-0976-9234	5115-5121	Scopus	https://www.pnrjournal.com/index.php/home/article/view/5487
40	CSE	Customized Digital Mobile Case	Madhavi Kolukuluri,Varada Karunakar, Siddhartha Godaba, Naresh Nallam, Middi Yaswanth	Journal of Pharmaceutical Negative Results	December	2022	Volume 13, Special Issue 7 2022 ISSN-0976-9234	5133-5141	Scopus	https://www.pnrjournal.com/index.php/home/article/view/5489
41	CSE	Mining And Machine Learning In the Manufacturing Products	Madhavi Kolukuluri,A.Sagar,Sureddi Niharika, Chepala Kishore, Nakka Krishna Prasad	Journal of Pharmaceutical Negative Results	December	2022	Volume 13, Special Issue 7 2022 ISSN-0976-9234	5151-5157	Scopus	https://www.pnrjournal.com/index.php/home/article/view/5491
42	CSE	Hidden Patterns Of Big Data And Data Analytics Applications in Different Sectors	P.Kavya,G.Jayaprakash, N.Seshu Kumar, P.Nikesh Varma, R.Sai Tarun	Journal of Pharmaceutical Negative Results	December	2022	Volume 13, Special Issue 7 2022 ISSN-0976-9234	5104-5114	Scopus	https://www.pnrjournal.com/index.php/home/article/view/5486
43	CSE	Business Intelligence Using Data Mining Techniques And Predictive Analytics	Madhavi Kolukuluri,V.Keerthana Devi, S.Sai Tejaswini, K.Anusha	Journal of Pharmaceutical Negative Results	December	2022	Volume 13, Special Issue 7 2022 ISSN-0976-9234	6923-6932	Scopus	https://pnrjournal.com/index.php/home/article/view/5964
44	CSE	Detection of Unauthorized Access Points Based on Machine Learning Techniques	Challa Narasimham, Velamuri Manasa, Sujatha Karimisetty,N. Viswanadha Reddy, and Sudhanshu Maurya	Cyber Technologies and Emerging Sciences. Lecture Notes in Networks and Systems	August	2022	Volume 467,ISBN:978-981-19-2537-5 ISSN:2367-3370	405-411	Scopus	https://doi.org/10.1007/978-981-19-2538-2_41
45	CSE	Speech Recognition With Deep Learning	Viswanadha Reddy N, Aravind Yerninti,Deepak Rapeti,Cheticom Venkata Vamsi Krishna	Journal of Pharmaceutical Negative Results	December	2022	Volume 13, Special Issue 7 2022 ISSN-0976-9234	9144-9147	Scopus	https://www.pnrjournal.com/index.php/home/article/view/6490
46	CSE	Integrating Business Intelligence Into A Strategy	Anthani Kamala Priya, Seeram Ruth Praisy, Kanakam Yogesh, Dindi Manognya Devi, Cherakapu Ravindra	Journal of Pharmaceutical Negative Results	December	2022	Volume 13, Special Issue 7 2022 ISSN-0976-9234	8573-8579	Scopus	https://www.pnrjournal.com/index.php/home/article/view/6326

47	CSE	A Novel Methodology Proposed To Produce A Secure Password	Veera Babu Sreesailam,Divya Gowri Pentakota,Thanmai Pappala ,Shankar Kopanati ,Chalice Prajwal Siripurapu	Journal of Pharmaceutical Negative Results	December	2022	Volume 13, Special Issue 7 2022 ISSN-0976-9234	5142-5150	Scopus	https://www.pnrjournal.com/index.php/home/article/view/5490
48	CSE	Framework on Text and Predictive Analytics	A. Suraj Kumar, G.V.V. Harshak, K. Syamanth, P. Viswanadh, S. Lokesh Kumar	Journal of Pharmaceutical Negative Results	December	2022	Volume 13, Special Issue 7 2022 ISSN-0976-9234	5122-5132	Scopus	https://www.pnrjournal.com/index.php/home/article/view/5488
49	CSE	Hybrid Clustering Approach for Time Series Data	V Harsha Shastri,Prathipati Ratna Kumar,Madhavi Kolukuluri, D.Radha, Donthireddy Sudheer Reddy,B.N.Siva Rama Krishna	Biomedicine and Chemical Sciences	October	2022	Volume-1 Issue-4 ISSN-2957-5826	207-214	WOS	https://doi.org/10.48112/bcs.v1i4.84
50	CSE	Fake News Detection	S.Sudheer Kumar,V.Gayathri,P.Sai Kumar,G.Nithin,Dr.V.Sreerama Murthy	Industry Engineering Journal	April	2023	Volume:52, Issue 4 ISSN-0970-2555	713-721	UGC	http://www.journal-iiie-india.com/1_apr_23/93_online.pdf
51	CSE	Web Application to Provide Virtual Platform to People(Social Life)	K.Aarthi,K.Pradeep,G.Yashoda,Ashwin Kumar Rout,Dr.Rayudu Srinivas	Industry Engineering Journal	April	2023	Volume:52, Issue 4 ISSN-0970-2555	662-672	UGC	http://www.journal-iiie-india.com/1_apr_23/88_online.pdf
52	CSE	College Events Notification System	Sowmya Panda,Barla Mano KumarRajana Jahnavi,Palavalasa Pavan Kalyan,Reddy Naga Venkata Siva, Dr.V.Sreerama Murthy	Industry Engineering Journal	April	2023	Volume:52, Issue 4 ISSN-0970-2555	844-858	UGC	http://www.journal-iiie-india.com/1_apr_23/106_online.pdf
53	CSE	AI Posture Trainer Using Open CV and Media Pipe	K.Shankar,P.Chandra Kiran,G.Swaroop Ganesh,MSVN Praveen,Ch.Bhavya Shree	Industry Engineering Journal	April	2023	Volume:52, Issue 4 ISSN-0970-2555	490-494	UGC	http://www.journal-iiie-india.com/1_apr_23/69_online.pdf
54	CSE	To present a model that enhances the image quality efficiently corrupted by diffferent noises by applying ANN and combination of several IP algorithms	J.Vyjayanthi,K.Alekhya,A.Sai Prakash,M.Avinash, K.Shankar	Industry Engineering Journal	April	2023	Volume:52, Issue 4 ISSN-0970-2555	574-586	UGC	http://www.journal-iiie-india.com/1_apr_23/80_online.pdf
55	CSE	Timetable Management with Faculty-Course assignment constraints	Dunga Pravallika, Asam Sireesha, Dandu Pramodini, Ketan Jain,N.Viswanadha Reddy	Industry Engineering Journal	April	2023	Volume:52, Issue 4 ISSN-0970-2555	533-544	UGC	http://www.journal-iiie-india.com/1_apr_23/77_online.pdf
56	CSE	Diabetes Prediction With Genetic Optimization	Gayathri Devi,P.Dharma Teja,M.Vamshi,L.T.Priyanka	Industry Engineering Journal	April	2023	Volume:52, Issue 4 ISSN-0970-2555	545-561	UGC	http://www.journal-iiie-india.com/1_apr_23/78_online.pdf
57	CSE	Sign Language Recognition Using Convolutional Neural Networks	Kolukula Kalyani, Atchutanna Sai Nirmal,Siraparapu Rohini,Marasu Bala Vihar,Dr.T.V.S.Sriram	Industry Engineering Journal	April	2023	Volume:52, Issue 4 ISSN-0970-2555	833-845	UGC	http://www.journal-iiie-india.com/1_apr_23/105_online.pdf
58	CSE	Detection of Chronic Kidney Disease (CKD) Using ML Algorithms	K.Shankar,P.Bhargavi,M.Manikanta ,T.Udayasri,S.Sujith	International Journal of Creative Research Thoughts	April	2023	Volume 11 Issue 4 ISSN No:2320-2882	371-375	UGC	https://ijcrt.org/papers/IJCRT2304056.pdf
59	CSE	A Novel Deep Learning Technique For Image Text To Speech Conversion	S.Vijay, P.Divya,M.Jahnavi ,G.Chaitanya,Dr.K.Madhavi	Industrial Engineering Journal	April	2023	Volume 52 Issue 4 ISSN:0970-2555	587-602	UGC	http://www.journal-iiie-india.com/1_apr_23/81_online.pdf
60	CSE	Text Summarization Using Long Short Term Memory Algorithm	Singampalli Sindhu Seshtna,Pakalapati Sai Deepak Varma, Karanam.B.M.Anusha,Rohit Kumar Meesala ,Dr. K. Madhavi	Industrial Engineering Journal	April	2023	Volume 52 Issue 4 ISSN:0970-2555	703-712	UGC	http://www.journal-iiie-india.com/1_apr_23/92_online.pdf

61	CSE	Datatable Server Side Processing Crud Operations	V.Kumari Chandana,N.Ganesh Madhuri, R.Manikanta, P.Sasi Preethi,Dr.K.Madhavi	Industrial Engineering Journal	April	2023	Volume 52 Issue 4 ISSN:0970-2555	743-750	UGC	http://www.journal-iiie-india.com/1_apr_23/96_online.pdf
62	CSE	Credit Card Fraud Detection Using Machine Learning Algorithms	Kolli Nikhil,Biswambhara Vinay Maharshi,Kamireddy Tanooj,Dr.T.V.S.Sriram	Journal of Engineering Sciences	April	2023	Vol 14 Issue 04,2023 ISSN:0377-9254	471-485	UGC	https://www.jespublication.com/upload/2023-CREDIT%20CARD%20FRAUD%20DETECTION-1.pdf
63	CSE	Plant Leaf Disease Detection Using Convolutional Neural Networks	S.Uma,P.Jyothi,M.Ramya,N.Aravind Kumar,G.Aparanjini	Industrial Engineering Journal	April	2023	Volume 52 Issue 4 ISSN:0970-2555	824-832	UGC	http://www.journal-iiie-india.com/1_apr_23/104_online.pdf
64	CSE	Error Solver Using a Chatbot	Ch.L.Charan Sai, K.Sahithi, A.Vatsavi, A.Preetham, J.Santoshi Kumari	Industrial Engineering Journal	April	2023	Volume 52 Issue 4 ISSN:0970-2555	562-573	UGC	http://www.journal-iiie-india.com/1_apr_23/79_online.pdf
65	CSE	Empower Skilled Illiterate People Through Web Application	G.S.Gowtham,B.Kumari,A.Lakshmi Prasanna, G.Pavani, K.Praveen Kumar,J.Santoshi Kumari	Industrial Engineering Journal	April	2023	Volume 52 Issue 4 ISSN:0970-2555	730-742	UGC	http://www.journal-iiie-india.com/1_apr_23/95_online.pdf
66	CSE	Visitors Hire(Wb Based Application for Rental Vehicles)	N.Sai Kumari,M.Seetham Naidu, V.Kusuma Latha,P.Nikhil,P.Kavya	Industrial Engineering Journal	April	2023	Volume 52 Issue 4 ISSN:0970-2555	775-785	UGC	http://www.journal-iiie-india.com/1_apr_23/99_online.pdf
67	CSE	Generative Adversarial Networks Using Machine Learning	Ch.Pavani Kumari,G.D.Ram Sahu,K.Deepak,K.Bhanu Prakash,A.Prudhvi Jaya Kumar,A.Kamala Priya	Journal of Engineering Sciences	April	2023	ISSN 0377-9254	358-364	UGC	https://www.jespublication.com/upload/2023-V14I4048.pdf
68	CSE	Stock Market Prediction Using Machine Learning Algorithms	S.V.S.Valli,S.Amruth Raj,N.Jeevan Sai, K.Lavanya, Khadarunnisa	Industrial Engineering Journal	April	2023	Volume 52 Issue 4 ISSN:0970-2555	786-796	UGC	http://www.journal-iiie-india.com/1_apr_23/100_online.pdf
69	CSE	Hand-Written Character Recognition	P.Devi,P.Harshavardhan,M.Manasa ,S.Mohammad,M.Bhargavi	Industrial Engineering Journal	April	2023	Volume 52 Issue 4 ISSN:0970-2555	722-729	UGC	http://www.journal-iiie-india.com/1_apr_23/94_online.pdf
70	CSE	Fake Currency Detection Using OpenCV	S.Jayaprada, T.Harika,T.Bhavani Shankar, Y.Katyayani Sudarsini	Industrial Engineering Journal	April	2023	Volume 52 Issue 4 ISSN:0970-2555	698-702	UGC	http://www.journal-iiie-india.com/1_apr_23/91_online.pdf
71	CSE	Diabetic Retinopathy Detection using Convolutional Neural Network	Ch.Yasaswini,K.Arun Varma, B.Rishitha, K.Bhargav, P.Sahithi	Industrial Engineering Journal	April	2023	Volume 52 Issue 4 ISSN:0970-2555	797-807	UGC	http://www.journal-iiie-india.com/1_apr_23/101_online.pdf
72	CSE	Online Auction System	R.V.S.Sravanthi,Y.Hemalatha,M.Hema Chaturya,Abhishek Sahu,M.S.S.Vahini	Industrial Engineering Journal	April	2023	Volume 52 Issue 4 ISSN:0970-2555	751-763	UGC	http://www.journal-iiie-india.com/1_apr_23/97_online.pdf
73	CSE	Heart Disease Prediction using Machine Learning	Valle Harshavardhan, Uppala Rajesh Kumar,Vanumu Vardhini,Sabbi Leela Varalakshmi,A.Suraj Kumar	Journal of Engineering Sciences	April	2023	ISSN 0377-9254	440-450	UGC	https://www.jespublication.com/upload/2023-HEART%20DISEASE%20PREDICTION%20USING%20MACHINE%20LEARNING%20(1).pdf
74	CSE	Predicting Air Pollution Using Machine Learning Algorithms	Gunupuru Sowjanya, Majji Thanu Sri,Bolem Chaitanya Jyothika,Asish Nikhil,Jani Shaik	Journal of Engineering Sciences	April	2023	ISSN 0377-9254	195-205	UGC	https://jespublication.com/upload/2023-V14I4027.pdf
75	CSE	Predicting of Modernized Loan Approval System Based on Different Machine Learning Approaches	Dangeti Aruna Kumari, Harsha Vardhan Panigrahi, Kolli Hari Krishna, Karri Kumar Naidu, Peddinti Mounika	Journal of Engineering Sciences	April	2023	ISSN 0377-9254	325-338	UGC	https://jespublication.com/upload/2023-V14I4046%20(1).pdf

76	CSE	A Case Study on Financial Fraud Detection With Big Data Analytics	A.Suraj Kumar, D.Govardhan,W.Sai Kaushik, Ch.Harshith, U.Madhu	International Journal of Novel Research and Development	December	2022	ISSN No:2456-4184	54-58	UGC	https://www.ijnrd.org/papers/IJNRD2301007.pdf
77	CSE	Diabetes Prediction using Machine Learning	N.Viswanadha Reddy,P.Manoj Kumar,V.Sri Rama Raju,G.Sai Dharma,D.Pavan Kalyan	International Journal of Novel Research and Development	December	2022	ISSN No:2456-4184	555-558	UGC	https://www.ijnrd.org/papers/IJNRD2212164.pdf
78	CSE	Face Emotion Detection Using Deep Learning	K.Latha,S.Mounika,Ch.Rajesh,T.Raghunath,K.Dinesh and T.V.S.Sriram	International Journal of Research in Advanced Computer Science Engineering	June	2022	ISSN No:2454-4221	01 to 13	UGC	http://www.ijracse.com/olvolume8issue1/June-1.pdf
79	CSE	Flight Fare Prediction Using Machine Learning	Majji Lavanya,Dumpa Satyaveni, S.D.Sai.Gadi Jaswanth Kushil, Menda Ramya,Dr.Srinivas Rayudu	Journal of Engineering Sciences	April	2023	ISSN 0377-9254	339-356	UGC	https://www.jespublication.com/upload/2023-V14I4047.pdf
80	CSE	Skin cancer detection using convolutional neural networks	Kolli Govindu, Bodanki Sri Rama Rachana, Manam Siva Sai,Madaka Priya Sandhya,Dr.Rayudu Srinivas	Journal of Engineering Sciences	April	2023	ISSN 0377-9254	458-470	UGC	https://www.jespublication.com/upload/2023-SKIN%20CANCER%20DETECTION%20USING%20CONVOLUTIONAL%20NEURAL%20NETWORKS%20-1.pdf
81	CSE	Face Mask Detection using Open-Source CV Library & Scikit-learn using machine learning	G.Poojitha, S.Ganesh Kumar,G.Harha Vardhan,M.Bhargavi, N.Viswanadha Reddy	International Journal of Scientific Research in Computer Science Engineering & Information Technology	June	2022	ISSN 2456-3307	282-288	UGC	https://ijsrcseit.com/CSEIT228377
82	ECE	NOVEL PLACEMENT OF SERPENTINE SPRING TO REDUCE PULL-IN VOLTAGE OF A MEMS BASED SWITCH	P. Rohit Nair, S. Gowtham, T. Avinash, Y. Saranya, Vijay Kumar and Virender Singh	European Chemical Bulletin	JUNE	2023	ISSN 2063-5346		Scopus	
83	ECE	Design and implementation of one bit ALU using Reversible Logic	G. Lakshmi, B.V. Niharika, E.H.S. Vyshnavi, CH.Lakshmi Prasanna and Virender Singh	Journal of Data Acquisition and Processing	April	2023	1004-9037	3885	Scopus	https://sjcjycl.cn/ DOI: 10.5281/zenodo.777338
84	ECE	DESIGN OF FREQUENCYRECONFIGURABLE SWASTIK PATCH ANTENNA FOR 5G &SATELITE COMMUNICATION	B. Siva Prasad, P.S.V.V. Manikanta, K. Gowthami, R. Asha Deepika and G.D. Vara Prasad,	Journal of Data Acquisition and Processing		2023	1004-9037	1976	Scopus	https://sjcjycl.cn/ DOI: 10.5281/zenodo.776844
85	ECE	Image Processing Based Brain Tumor Detection Using MRI	S. Arunakumari, K. Rajasekahr, S. Sunithamani, and D. Suresh Kumar	Computer Integrated Manufacturing Systems			1006-5911	289	Scopus	https://doi.org/10.1007/978-981-19-2308-1_30
86	ECE	Computer Integrated Manufacturing Systems	Dr. B. Chinna Rao,K.Rajasekhar, G.Thrinadh Kumar, A.V D S S Yaswanth , S.Hashitha and Tharun Krishna	Computer Integrated Manufacturing Systems			1006-5911	1066	Scopus	https://doi.org/10.1007/978-981-19-2308-1_30
87	ECE	Design And Study Of 32-Bit Arithmetic Logic Unit Block With Reversible Logic Gates	V. Sai Naveen, N. Rahim Kumar, Y. Chandra Kanth, A.Muralidhar and B.Ravi Chandra5	Journal of Pharmaceutical Negative Results		2022		10067	Scopus	
88	ECE	Review Paper On Wireless Lan Using Distributed Smart Antenna System	B. Ravi Chandra, G. Karishma Rani, B. Varshit, CH. Geethanjali, B. Yamini and K. Lokesh6,	Journal of Pharmaceutical Negative Results		2022		10099	Scopus	
89	ECE	Review Paper On Alcohol Detection And Vehicle Engine Locking System	Dr. K. Ravi Kumar,Yellapu Neeraj Kumar, Midathana Kisran, Urikiti Teja and MD Shakeer	Journal of Pharmaceutical Negative Results		2022		10085	Scopus	
90	ECE	Review Paper On Traffic Density Control System	Dr. K. Ravi kumar,K. Sravana, A. Purna Sai Sri Ram, K. Anusha, B. Loka Nandini and B. Pavan Kumar	Journal of Pharmaceutical Negative Results		2022		10093	Scopus	
91	ECE	A REVIEW PAPER ON HOME SECURITY BASED ON ZIGBEE	N. Vishnu Vardhan, R.Niharika Lakshmi, V.Manoj, S.Janaki Rama Lakshmi, S.Prem Kumar and Mr .G.S. Suresh Kumar	Journal of Data Acquisition and Processing					Scopus	
92	ECE	Review On Leakage Of Gas Detection Techniques	K.Y.K.G.R. Srinivasu, K. Gnaneswara Rao, K.Tanujaramani, K.Bhavika Sai Rani, S. Padmini rani, and R.Navya Jyothi	Journal of Pharmaceutical Negative Results					Scopus	

93	ECE	Robot for Rescue Operation	D. Pushpa Latha, KM.Sai Durga, D. Sharath Chandra, M. Varshini and B. Siva Prasad,	International Journal of Engineering Research & Technology (IJERT)		2023	2278-0181	288	U.G.scholar	www.ijert.org
94	ECE	AUTHENTICATED ACCESS FOR VEHICLE AND SPEED MONITORING THROUGH IOT	A. Madhukar,K. Sirisha,CH. Sriya Varma,CH. Kanaka Mahalaxmi and K. Ravi Kumar,	International Journal for Research Trends and Innovation	March	2023	2456-3315	299	U.G.scholar	www.ijrti.org
95	ECE	WIRELESS BLACK BOX FOR VEHICLES USING SENSORS AND GSM MODULE	L. Vasantha, B. Thanvi Trilochana, K. Bala Veera Swamy, A. Vinod Kumar and B. Ravi Chandra,	International Journal of Novel Research and Development	March	2023	2456-4184	d776	U.G.scholar	www.ijnrd.org
96	ECE	WEED DETECTION USING RASPBERRY PI BASED ON IMAGEPROCESSING	G. Revathi Devi,K. Pavan Kalyan,CH. Sathwika,M V K. Sanjay and Mrs. M V RojaRamani,	International Journal of Scientific Development and Research (IJSDR)	April	2023	2455-2631	215	U.G.scholar	www.ijnrd.org
97	ECE	Home Automation for Disabled Person using Voice Tag	K. Triveni,K. Hemanth Patnaik,M. Durga Sri Prasad,G. Surya Venkata Durgesh and M. Veeraiah,	International Journal of Engineering Research & Technology (IJERT)	March	2023	2278-0181	302	U.G.scholar	http://www.ijert.org
98	ECE	Under Water Surveillance and Rescue Drone with Camera	J.Mounika, D.Meghana Sandhya, A.Bhanu Prakash, G.sailendra and Mr.K.Rajasekhar	International Journal of Novel Research and Development	March	2023	2456-4184	e75	U.G.scholar	www.ijnrd.org
99	ECE	ATTENDANCE MONITORING SYSTEM USING MULTIPLE FACE RECOGNITION WITH SMS ALERT	K. Mounika,M. Likhitha, A. Nagendra Kumar, M.K. Rajkiran and Y. Sravana Kumar,	International Journal of Novel Research and Development	April	2023	2456-4184	a590	U.G.scholar	www.ijnrd.org
100	ECE	EMBEDDED CONTROLLED SMART INVERTER	Jayanth Prajapathi, K. Manish, D. Manisha, J. Kiran Kumar and Y. H. D. Aparna,	Journal of Emerging Technologies and Innovative Research (JETIR)	April	2023	ISSN-2349-5162	a350	U.G.scholar	http://www.ijert.org
101	ECE	SMART BOREWELL CHILD RESCUE SYSTEM THROUGH WIRELESS MONITORING USING ARTIFICIAL INTELLIGENCE	M. Akshaya, CH. Pavani, L. Pavan Kumar,B. Naresh and G. Siva Suresh Kumar,	Journal of Emerging Technologies and Innovative Research (JETIR)	March	2023	2456-4184	e669	U.G.scholar	www.ijnrd.org
102	ECE	REAL TIME SAFETY MEASURES IN RAILWAYS USING RFID AND EMBEDDEDSYSTEM	J.Venkat Akash, G.Khushbu, K.Sai Ganesh Manikanta, CH.Manikanta Gupta and Maddu.Veeraiah	International Journal of Research and Analytical Reviews (IJRAR)	March	2023	E-ISSN 2348-1269, P- ISSN 2349-5138	662	U.G.scholar	www.ijrar.org
103	ECE	A SMART SOLAR PV MONITORING AND CLEANING SYSTEM	D. Pavani Prathyusha,Kalyan Nemani ,K. Jeevan Kumar,B. Durga Prasad and K.Y.K.G.R. Srinivasu,	International Journal for Research Trends and Innovation		2023	2456-3315	5	U.G.scholar	www.ijrti.org
104	ECE	WIRELESS ELECTRIC VEHICLE CHARGING SYSTEM	S. Jayasri,S. Pravallika,R. Sai Venkata Preetham and E. Manemma,	International Journal of Novel Research and Development	April	2023	2456-4184	a524	U.G.scholar	www.ijnrd.org
105	ECE	IoT VIRTUAL DOCTOR ROBOT	Preeti Das, S. Mythree, P.Yernaidu, B. Manish Kumar and B.Siva Prasad	International Journal of Novel Research and Development	April	2023	2456-4184	a704	U.G.scholar	www.ijnrd.org
106	ECE	EVM Through Id and Fingerprint Verification using RFID	P. Sandeep, Y. Narasimha Reddy, V. Madhu Sai and A. Vijaya Sri.	International Journal of Engineering Research & Technology (IJERT)	March	2023	2278-0181	318	U.G.scholar	www.ijert.org
107	ECE	PUBLIC ANNOUNCEMENT SYSTEM USING ARDUINO	R. Meghana, P. V. Pavan Saketh, T.Rohit Kumar, P.Sankara Rao and G.Durga Prasad,	International Journal for Research Trends and Innovation		2023	2456-3315	137	U.G.scholar	www.ijrti.org
108	ECE	Smart Blind Stick	S. Sharmila,P. Sai Teja,P. Shanmukh Sagar Kumar,Y. Bhaskara Rao and S. Venkata Ramanaji Kalla,	International Journal of Engineering Research & Technology (IJERT)	March	2023	2278-0181	315	U.G.scholar	www.ijert.org
109	ECE	SILENT SOUND TECHNOLOGY	CH. Meghams,M. Mounika,M. Tejesh, and Yelithoti Sravana Kumar,	International Journal of Novel Research and Development	April	2023	2456-4184	a629	U.G.scholar	www.ijnrd.org
110	ECE	Detection Of Currency Notes for Blind	V. Satyanarayana Raju,V. Mounika,P. Ganesh,V. Latha and K. Rajasekhar,	International Journal of Scientific Development and Research (IJSDR	March	2023	2455-2631	278	U.G.scholar	www.ijsdr.org

111	ECE	CNC PCB DESIGN PLOTTER INCLUDING WOODENGRAVING MACHINE USING ARDUINO	N. Chandra Shekhar,Y. Surya Vamsi,R. Sowjanya,R. Ranjith and A. Gowthami Naidu,	International Journal of Novel Research and Development		2023	2456-4184	d772	U.G.scholar	www.ijnrd.org
112	ECE	Automated Ventilator with Heartrate and SpO2 Monitoring	J. Vishal, S. Anil, Y.J. Nageswara Rao, P. Mohan Rao and M.V.S. Roja Ramani,	International Journal of Engineering Research & Technology (IJERT)	March	2023	2278-0181	305	U.G.scholar	www.ijert.org
113	ECE	VOICE CONTROLLED PICK AND PLACE ROBOT	S. Karthik Teja, B. Aparna, P. Sanju Vara Prasad, P. Prem and B. Ravi Chandra	International Journal of Novel Research and Development	April	2023	2456-4184	b370	U.G.scholar	www.ijnrd.org
114	ECE	SELF DRIVING CAR USING LIDAR	N. Sai Kumar,N. Sai Naga Bhargav,V. Kalyani,T. Uday Kiran and K. Ravi Kumar,	International Journal of Novel Research and Development	March	2023	2456-4184	e349	U.G.scholar	www.ijnrd.org
115	ECE	Detection of Subclinical Keratoconus using Machine Learning Algorithms	Sravan Kumar, P.Hemanth, Sk.Nawaz Shareef, S.Preethi and B.Siva Prasad.	International Journal of Engineering Research & Technology (IJERT)	March	2023	2278-0181	299	U.G.scholar	www.ijert.org
116	BS&H	On Some Coupled Fixed Point Theorems for Mixed Monotone Mappings in P – Metric Spaces	P. Harikrishna, V. RavindranathKusuma. Tummala,, A. Sree Rama Murthy,	Computer Integrated Manufacturing Systems	Nov	45252	Vol. 28 Iss-11	1006-5911		
117	BS&H	Common Fixed Points Of Geraghty Generalized Rational Type Weak Contraction Maps With Altering Distance Functions Via Graph Structures	P. Harikrishna, V. RavindranathKusuma. Tummala,, A. Sree Rama Murthy,	JJournal of Northeastern University	Dec	44917	Volume 25 Issue 04,	1005-3026		
118	BS&H	Order Statistics of Doubly Truncated Additive Order Statistics of Doubly Truncated Additive Uniform Exponential Distribution Uniform Exponential Distribution	Uppu Venkata Subbarao, K. Srinivasa Rao, T. Narayana Rao	International Journal for Research in Applied Science & Engineering Technology	July	45129	Volume 10 Issue VII	ISSN: 2321-9653;		
119	CE	studies on influence of process parameters in upgradation of bio□oil derived from HTL of domestic household waste: Application of response surface methodology	Sathees Kumar V. , Raja Murugadoss J. , Gokulan R. , and Ramkumar S.	Global NEST Journal	Oct	2022	Vol 25, No 1	pp 40-46	SCI	gnest_04445_published.pdf
120	CE	ziziphus Jujube seeds derived biomass as cost-effective Biosorbent for the removal of Cr6+ from aqueous solutions: isotherm and kinetic studies	Ramesh Pandian R., Kalyani G. , Gokulan R., and Anitha A.S.	Global NEST Journal	Nov	2022	Vol 25, No 2	pp 28-39	SCI	gnest_04497_published.pdf
121	CE	An Exploratory Ponder Of Concrete Blend Substitution Of Fines Totally With Plastic	Mr.D.V.Shanmukesh,Dr. S. Samson,Mr. T. Sai Kumar, Mr.V.Lokesh, Mr. V. Anil, Mr.K.Venu	Journal of Pharmaceutical Negative Results		2022	Vol 13, Special Issue 9	pp 10062- 10066	Scopus	View of An Exploratory Ponder Of Concrete Blend Substitution Of Fines Totally With Plastic (pnrjournal.com)
122	CE	An Experimental Approach to strength Assessment of Concrete by fractional distribution of the fine Aggregate exploted polystyrene Beads	Mr.D.V.Shanmukesh, B. V. R. Murthy, M. Sai Ram, P. Chandra, S. Anand, S. Lokesh, S. Teja	IJRASET	April	2023	Vol 11, Issue 4	pp 819-823	UGC care	An Experimental Approach to Strength Assessment of Concrete by Fractional Substitution of the Fine Aggregate with Expanded Polystyrene Beads (ijraset.com)
123	CE	Publication: An Experimental Approach for The Study on Mechanical Properties of M30 Grade Concrete When The Steel Fibres Are Induced	Mr. T. Naidu, K. Murali, M. Ananta Rao, D. Vamsi Krishna, K. Bhaskara Rao, S. Durga Prasad	IJRASET	April	2023	Vol 11, Issue 5	pp 815 - 818	UGC care	An Experimental Approach for the Study on Mechanical Properties of M30 Grade Concrete when the Steel Fibers are Induced (ijraset.com)
124	CE	An Experimental Approach to Study the Properties of Self-Healing Concrete by Replacing Fine Aggregate with Glass Powder and Demolished Waste	Mr. P. Haragopal, D. Mouli, K. Bhaskar Rao,K. Sunil, M. Raj, P. Sowmya	IJRASET	April	2023	Vol 11, Issue 6	pp 805 - 809	UGC care	An Experimental Approach to Study the Properties of Self-Healing Concrete by Replacing Fine Aggregate with Glass Powder and Demolished Waste (ijraset.com)

Global NEST Journal, Vol 25, No 1, pp 40-46

Studies on influence of process parameters in upgradation of bio-oil derived from HTL of domestic household waste: Application of response surface methodology

Sathees Kumar V.[1], Raja Murugadoss J.[2], Gokulan R.[3,*], and Ramkumar S.[4]
[1]Department of Civil Engineering, Government College of Technology, Coimbatore, Tamil Nadu - 641 013, India
[2]Department of Civil Engineering, Nadimpalli Satyanarayana Raju Institute of Technology, Visakhapatnam, Andhra Pradesh 531173, India
[3]Department of Civil Engineering, GMR Institute of Technology, Rajam, Andhra Pradesh – 532 127, India
[4]Department of Civil Engineering, Kongunadu College of Engineering and Technology, Trichy – 621 215, Tamil Nadu, India
Received: 31/08/2022, Accepted: 18/10/2022, Available online: 31/01/2022
*to whom all correspondence should be addressed: e-mail: gokulravi4455@gmail.com
https://doi.org/10.30955/gnj.004445

Graphical abstract

Abstract

This research focuses on hydrothermal gasification (HTG) and hydrothermal liquefaction (HTL) studies to produce bio-hydrogen from domestic mixed waste. HTG and HTL studies were studied at temperatures of 300–450°C and 300–400°C, correspondingly, with a catalyst level of 6 wt %. The sol-gel technique was used to make the Bentonite/Nb-TiO_2 catalyst. For a solvent-waste proportion of 14 millilitre/gram, an C_2H_5OH - water proportions of 2:2, and a period of one-hour, maximum H_2 output from HTL was 30 wt % (catalyst loads: 4 wt %) and HTG was 40 wt % (catalyst loads: 5 wt %). As C_2H_5OH acts as half-solvent and ideal solvent to bio-mass capacity it shot up H_2 result in the HTG procedure by methanation, gas water shift and improving responses in the organization. The second output of the HTL procedure was bio-oil, which yielded 35 wt % with O/C as well as H/C standards of 1.2 and 1.0, respectively, and an HHV of 42 Mega Joule/kilogram. In the HTL system, mechanistic procedures such depolymerization, hydration, reduction, and hydrolysis generated in a larger proportion of gaseous product. Thermal and the solvent-to-waste proportion is the ideal factors in the H_2 synthesis procedure, according to experimental analysis. Energy nexuses from domestic mixed trash are taken over in this research.

Keywords: Domestic waste, bio-oil, RSM, HTG, HTL

1. Introduction

Bioenergy has been viewed as a potential solution to exhaustible fossil fuels in terms of reducing greenhouse gas emissions. For dry biomass, pyrolysis and air gasification are used. As an outcome, there is an upsurge usage. Hydrothermal alteration methods are chosen for valorizing damp organic material to useful biofuel in part to avoid this costly procedure. When related to fossil fuels, H_2 energy is a pure, economical, and sustainable source. The Fischer-Tropsch method can be used to directly or indirectly generate compounds or fuels using H_2 energy. H_2 was produced on a large scale by steam transforming CH_4. Methanation, Gasification, Partial Oxidation, Involvement of photoautotrophic algae and Reforming are some of the other techniques for producing H_2 (Arun *et al.*, 2020). Subcritical and supercritical water gasification are two environmentally preferred ways employed in producing hydrogen from high moisture biomass. Thermochemical process, Hydrothermal gasification (HTG) converts biomass into gaseous products in freshwater systems (Sztancs *et al.*, 2020). HTG was the preferable approach for decomposition of biomass with greater moisture content because it was done beyond the critical point of H_2O. Biomass, temperature, catalyst and pressure to H_2O proportions are all variable in the HTG procedure, depending on the necessity for product assembling.

An increased output of organic garbage in current decades has put significant strain on the atmosphere and trash managing procedures. Among the biodegradable organic wastes that cause significant discomfort are waste paper, animal waste, garden waste, food waste, sludge and sewage (Heidari *et al.*, 2018). The major components of

Global NEST Journal, Vol 25, No 1, pp 28-39

Ziziphus Jujube seeds derived biomass as cost-effective Biosorbent for the removal of Cr^{6+} from aqueous solutions: isotherm and kinetic studies

Ramesh Pandian R.[1], Kalyani G.[2], Gokulan R.[3]*, and Anitha A.S.[4]
[1]Department of Civil Engineering, University College of Engineering, Dindigul, Tamil Nadu, India
[2]Department of Civil Engineering, Nadimpalli Satyanarayana Raju Institute of Technology, Visakhapatnam, Andhra Pradesh – 531173, India
[3]Department of Civil Engineering, GMR Institute of Technology, Rajam, Andhra Pradesh – 532 127, India
[4]Department of Biotechnology, Karpaga Vinayaga College of Engineering and Technology, Padalam, Tamil Nadu - 603308, India
Received: 24/09/2022, Accepted: 02/11/2022, Available online: 03/11/2022
*to whom all correspondence should be addressed: e-mail: gokulravi4455@gmail.com, gokulan.r@gmrit.edu.in
https://doi.org/10.30955/gnj.004497

Graphical abstract

Abstract

Biosorption of hexavalent chromium ions from the synthetic solution was performed using activated Ziziphus jujube seeds powder as an adsorbent material. A chemical synthesis process prepared the adsorbent, and various methods have evaluated its characteristics. FTIR, SEM and EDX analysis was conducted to check the ability of hexavalent chromium uptake from the synthetic solutions. Batch mode of adsorption process was performed and the adsorption parameters of pH, concentration, dose, contact time and temperature were found in various operating conditions. The entire adsorption process was evaluated by isotherm and kinetic models to check the nature of the adsorption process and its chemical reactions. Thermodynamic studies were conducted, desorption studies were used to recover the spent adsorbent using concentrated hydrochloric acid.

Keywords: Batch adsorption, Ziziphus Jujube seeds, hexavalent chromium, isotherm studies, kinetic studies.

1. Introduction

Clean water is essential to all living beings for consumption and other usages. Water contamination is one of the new issues that we've been dealing with recently. Without clean water, the people and all living creatures cannot survive. Recently, water gets polluted due to various domestic and industrial activities. Due to the rapid population growth and their needs, the industries developed very high and created huge problems for the surroundings (Adeyemo *et al.,* 2015). Tanneries, Electroplating, Dairy, fertilizers, Pulp & paper etc., are the various industries that release huge amounts of wastewater to produce their products. Among various industries, tanneries play an important role in water pollution (Labied *et al.,* 2018). By processing the leather products, a huge amount of chromium metal ions was released into the water bodies through industrial effluent. During the chrome tanning process, the chromium ions have been converted into the hexavalent chromium (Cr^{6+}) stage, and it becomes highly toxic. Excess amounts of hexavalent chromium consumption may create toxic effects such as lung cancer and respiratory problems (Lucai *et al.,* 2020). Hence, it is necessary to control chromium pollution in water using advanced treatment technologies. Many approaches are used to eliminate harmful pollutant concentrations from aqueous solutions. Chemical precipitation, Ion exchange, Membrane separation, and Adsorption are widely used to reduce the concentration of toxic pollutants in the water. Among these, Adsorption is the process commonly used to reduce the concentration of heavy metals without the generation of any secondary pollutants and sludge (Khan *et al.,* 2020).

Using the adsorbate material, the adsorption process produced very high removal efficiency from metal ion removal in wastewater. Many adsorbent substances were utilized to lower heavy metal ion concentrations in wastewater. Organic and inorganic adsorbents such as; banana peels, date seeds, fly ash, orange peels and

Original Article

An Exploratory Ponder Of Concrete Blend Substitution Of Fines Totally With Plastic

Mr. D.V.Shanmukesh[1], Dr. S. Samson[2], Mr. T. Sai Kumar[3], Mr.V.Lokesh[4], Mr. V. Anil[5], Mr.K.Venu[6]

[1,] Assistant Professor, Department of Civil Engineering, Nadimpalli Satyanarayana Raju Institute of technology, Visakhapatnam.

[2,] Professor, Department of Civil Engineering, VelTech Rangarajan Dr Sagunthala R & D Institute of Technology

[3,4,5,6,] Student, Department of Civil Engineering, Nadimpalli Satyanarayana Raju Institute of technology, Visakhapatnam.

DOI: 10.47750/pnr.2022.13.S09.1176

Abstract

The objective of this investigate is to explore the viability of utilizing squander plastic as fine total substitution in concrete blends. The compressive and malleable qualities of different concrete examples were tried to decide how the consolidation of reused plastic as a substitution fine total would influence the advancement of quality within the blends. Six blends were compared at substitution increases of 0%, 10%, 20%, 30% and 50%. All stages of plastic substitution appeared a discernible diminish in compressive quality. The 10% substitution level as it were appeared a 15% misfortune of compressive quality at 21 days compared to the control. In spite of being much weaker in compression, the malleable quality test appeared that the 10%, 20% and 30% substitution increases were more grounded in pressure compared to the control.

Key words: Concrete, Concrete blends, Plastic percentage & tests for the concrete at various pressures.

I. INTRODUCTION

One of the most popular building materials, concrete, uses a lot of natural resources and energy. Limestone, clay, sand, natural gravel, crushed stone, and water are natural resources that are included into concrete compositions. Our natural resources are being used up at an ever-increasing rate due to the recent growing urbanization of the planet. Therefore, in order to make our construction practices more sustainable, it is vital to develop a new material that uses less energy and natural resources. The use of waste/byproduct materials, such as fly ash, slag, silica fume, and natural pozzolan, to substitute Portland cement in a concrete mixture has been the subject of extensive research. investigated the material impacts of using plastic to substitute aggregate in concrete mixtures

II. EXPERIMENTAL PROGRAM

A. Material preparation, first for the study's concrete components, river sand, crushed limestone measuring 9.53 mm, type I portland cement, and water were used. Sand and crushed limestone, which were both employed in this study and complied with IS: 2386(Part-III)-1963 for concrete aggregates as fine and coarse aggregate, were chosen as the substitute material for fine aggregate. The experiment's goal was to find the most efficient way to recycle building trash into concrete in order to conserve energy and lessen the amount of plastic waste that must be disposed of in landfills. Since the gradation of sand might serve as a baseline for the desired incorporation of recycled plastic as a fine aggregate replacement alternative, the experiment started by determining the gradation of the fine aggregate. On, a sieve analysis was carried out.

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 11 Issue IV Apr 2023- Available at www.ijraset.com

An Experimental Approach to Strength Assessment of Concrete by Fractional Substitution of the Fine Aggregate with Expanded Polystyrene Beads

D. V. Shanmukesh[1], B. V. Ramana Murty[2], M. Sai Ram[3], P. Chandra[4], S. Anand[5], S. Lokesh kumar[6], S. Teja[7]
[1]M.E. (Ph. D) Sr. Professor NSRIT (A) (Guide), [2, 3, 4, 5, 6, 7]B.Tech, Department of Civil Engineering, JNTU-GV

Abstract*: Constructions are two types RCC and Steel Structures. In our Country most of the constructions are of RCC. Not only in our country but also in the world most constructions are of RCC type in which Concrete is been used. Even though Cost of concrete is comparatively less than steel, but is somewhat costlier. Ingredients of concrete are water, cement, coarse, sand. But Concrete is Heavier in weight. And when considered for precast structures those might fail at lifting due to mismatch of eccentricity by its own weight. So, in this project Sand in concrete is been partially replaced with Expanded polystyrene (EPS) beads, of 10 to 50 of intermediate percentages and it's compressive strength and Split Tensile Strength are been checked. Because, to reduce cost parameter and also to check the increase of strength parameter which might be an hope. EPS Beads is been considered because it is cheap and abandoned.

Keywords: EPS Beads , M20Concrete, etc.

I. INTRODUCTION

A composite material that consists essentially of a binding medium, such as a mixture of portland cement and water, within which are embedded particles or fragments of aggregate, usually a combination of fine and coarse aggregate. Concrete is by far the most versatile and most widely used construction material worldwide. It can be engineered to satisfy a wide range of performance specifications, unlike other building materials, such as natural stone or steel, which generally have to be used as they are. Because the tensile strength of concrete is much lower than its compressive strength, it is typically reinforced with steel bars, in which case it is known as reinforced concrete.

A. EPS Beads

EPS, or expanded polystyrene, is a rigid cellular plastic originally invented in Germany by BASF in 1950. It has been used in packaging solutions since 1958. It is 98% air but the rest is made from tiny, spherical EPS beads - themselves made only of carbon and hydrogen. EPS structures are produced through a 3 part process called steam moulding that expands these tiny beads to more than 40 times their original size. This expanding process is precisely timed to determine the size the beads will finally reach. It is this final density of the expanded beads that determines the strength of the structure. After the first stage the beads are left to absorb air for between 24 and 48 hours. In the final stage the freshly expanded beads are poured into individually manufactured moulds where steam and pressure are applied to compress and bond the beads into a final structure of the required strength and density.

B. Composition

There are two principal components of EPS: solid styrenic polymer (polystyrene beads) and a blowing agent. The information below will detail the technical information on the components of EPS

II. APPLICATION

A. Construction

1) Floor, Ceiling and Wall Insulation
2) Structural Insulated Panels (SIPs)
3) Sheathing
4) Geofoam
5) Door Cores
6) Insulating Concrete Forms (ICF's)

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 11 Issue IV Apr 2023- Available at www.ijraset.com

An Experimental Approach for the Study on Mechanical Properties of M30 Grade Concrete when the Steel Fibers are Induced

T. Naidu[1], K. Murali[2], M. Anata rao[3], D. Vamsi Krishna[4], K. Baskhar Rao[5], S. Durga Prasad[6]
[1]Asst. Professor NSRIT (A) (Guide), [2, 3, 4, 5, 6]B.Tech, Department of Civil Engineering, JNTU-GV

Abstract: ***Fibre Reinforced Concrete (FRC) material is a developed concrete that has been proposed to improve the tensile behaviour of the concrete using fibres in the concrete mix. Steel Fibre Reinforced Concrete (SFRC) is popular FRC material that is being studied to improve the structural behaviour of members under different load conditions.***
This study aims to investigate and examine the structural behaviour of steel fibre reinforced concrete material at different volume fraction of the fibers. Experimental work is conducted for this research to obtain results on the behaviour of SFRC. The experimental work consists of testing concrete under tension and compression.
A result data obtained has been analyzed and compared with a control specimen (0% fiber).a relationship between aspect ratio Vs compressive strength, aspect ratio Vs spilt tensile strength represented graphically. Result data clearly shows percentage increase in 28 days compressive strength and spilt tensile strength for M30 Grade of concrete.
Keywords: Steel Fibres, M30 Grade Concrete, SFRC, Strength Comparison, etc.

I. INTRODUCTION

Plain concrete slabs are known to have low strength and low strain capacity, however these structural properties could be improved by addition of fibres, allowing the thickness of the layer to be reduced. There are different fibres that are used in the concrete namely glass fibre, steel fibre, synthetic fibres and natural fibres. The improvement in the material behaviour of the fibre reinforced concrete depends on dosage and characteristics of the used fibres. The main important effect of fibres as reinforcement is to influence and control the tensile cracking of concrete. Yet, the fibre reinforced concrete is known to have considerable impact on the slab cost owing to reduced thickness needs, prolonged useful life and reduction in maintenance costs. Amongst the fibres mentioned, steel fibres are the most researched and more practical. Steel fibre reinforced concrete is a type of concrete that contains randomly oriented discrete steel fibres. The main aim of addition of steel fibres to concrete is to control crack widening and crack propagation after the concrete matrix has cracked. By control of the cracking the mechanical properties of the composite material as a result will be improved significantly.

II. OBJECTIVE OF THE STUDY

1) Review previous research on FRC material and structural behaviour of structural members.
2) Review previous experimental research on the impact behaviour of slabs and use of fibers.
3) Review the numerical studies conducted by previous researchers to analyse the impact behaviour of slabs.
4) To evaluate the effect of end hooked steel fibers on concrete mechanical behaviour consisting compressive strength, split tensile strength, flexural strength, and ductility.
5) To examine the effect of fiber volume fraction on SFRC material performance.
6) To make a comparison for the performance of concrete with and without steel fibre reinforcement on the material levels both graphically and qualitatively.

III. STEEL-FIBERS

B Steel fiber is a metal reinforcement. Steel fiber for reinforcing concrete is defined as short, discrete lengths of steel fibers with an aspect ratio (ratio of length to diameter) from about 20 to 100, with different cross-sections, and that are sufficiently small to be randomly dispersed in an unhardened concrete mixture using the usual mixing procedures. In this experimental approach, **Flat Crimped Steel Fibers** are used. The length of these fiber is 50 mm and diameter of 0.75 mm, whose aspect ratio is 65. These steel fibers exhibits a tensile strength of greater than 900 Mpa, which is conformed to ASTM A 820 & EN 14889 – 1 global standards.

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 11 Issue IV Apr 2023- Available at www.ijraset.com

An Experimental Approach to Study the Properties of Self-Healing Concrete by Replacing Fine Aggregate with Glass Powder and Demolished Waste

P. Hara Gopal[1], D. Mouli[2], K. Bhaskara rao[3], K. Sunil kumar[4], M. Raj[5], P. P. S. Sowmya[6]
[1]*Asst. Professor NSRIT (A) (Guide),* [2, 3, 4, 5, 6]*B.Tech, Department of Civil Engineering, JNTU-GV*

Abstract: ***Bacterial concrete is a material, which can successfully remediate cracks in concrete. This technique is highly desirable because the mineral precipitation induced as a result of microbial activities is pollution free and natural. To repair the cracks in concrete is a tedious job and in turn is expensive. So to avoid these, a special bacteria is induced in the concrete which reacts with calcium to form calcium carbonate crystals which blocks the cracks formed in the concrete. To make the Bacterial Concrete more affective in crack reduction, we used glass powder as partial replacement for fine aggregate of about 15 percentage. And construction waste is completely replaced in place of coarse aggregate.***
Keywords: Bacterial Concrete, Calcium carbonate crystals, Glass Powder, Construction debris, Workability, etc.

I. INTRODUCTION

To overcome this problem (crack failures) the concrete is prepared with the addition of bacteria which tends to heal (block the cracks) the concrete by itself. A bacteria known as Bacillus Bacteria. Bacillus bacteria is a group of different Bacterial family which contains Bacillus Megaterium, Bacillus pseudofirmus, Bacillus subtillis, Bacillus pasteurii, Sporosarcina pasteurii, etc.,. The Bacillus Megaterium is the bacteria used in this experimental approach. Bacillus Megaterium reacts with calcium and forms precipitation of calcium carbonate crystals, which usually blocks the cracks. In addition to bacterial concrete, we use glass powder as partial replacement to fine aggregate (sand) of about 15 percentage. Glass powder gives shining appearance to the concrete, it is also act as a water resistant material. The coarse aggregate was fully replaced by the demolished waste (construction waste) which improves strength of concrete. These are some of the major waste materials produced from the community. So by implementing this technique we can reuse some amount of industrial & constructional waste in construction work.

II. OBJECTIVE OF THE STUDY

1) To develop and observe the strength comparison of self-healing concrete with normal concrete.
2) To Develop efficient self-healing techniques for the cracks developed by creep of concrete.
3) To observe the healing of cracks by bacterial precipitation.
4) To investigate the effect of bacillus megaterium bacteria in gaining strength.
5) To observe the effect of demolished waste and glass powder in concrete before and after mixing.

III. BACTERIA

Bacillus megaterium is a soil-dwelling bacteria that is commonly used in agriculture as a bio-fertilizer. It can fix atmospheric nitrogen in the soil, making it available to plants, and can also produce plant growth-promoting compounds such as indole acetic acid and gibberellins. Additionally, B. megaterium can also act as a bio-pesticide by producing compounds that inhibit the growth of plant pathogens. It can also be used to ferment organic waste and produce organic acids and enzymes which can be used as a soil conditioner. Bacillus megaterium is a motile rod-like, Gram-positive, mainly aerobic and spore forming bacterium ubiquitous in the environment. Bacillus megaterium bacteria is mixed in liquid form to concrete.

Properties of Bacillus Megaterium bacteria
Scientific Name = Priestia Megaterium
Size of Bacteria = 4*1.5 microns

energies

MDPI

Article

Energy Management for PV Powered Hybrid Storage System in Electric Vehicles Using Artificial Neural Network and Aquila Optimizer Algorithm

Namala Narasimhulu [1], R. S. R. Krishnam Naidu [2], Przemysław Falkowski-Gilski [3,*], Parameshachari Bidare Divakarachari [4,*] and Upendra Roy [5]

[1] Department of Electrical and Electronics Engineering, Srinivasa Ramanujan Institute of Technology (Autonomous), Ananthapuramu 515701, Andhra Pradesh, India
[2] Department of Electrical and Electronics Engineering, N S Raju Institute of Technology, Sontyam, Visakhapatnam 531173, Andhra Pradesh, India
[3] Faculty of Electronics, Telecommunications and Informatics, Gdansk University of Technology, Narutowicza 11/12, 80-233 Gdansk, Poland
[4] Department of Electronics and Communication Engineering, Nitte Meenakshi Institute of Technology, Bangalore 560064, Karnataka, India
[5] Department of Electrical and Electronics Engineering, Channabasaveshwara Institute of Technology, Tumkur 572216, Karnataka, India
* Correspondence: przemyslaw.falkowski@eti.pg.edu.pl (P.F.-G.); paramesh@nmit.ac.in (P.B.D.)

Abstract: In an electric vehicle (EV), using more than one energy source often provides a safe ride without concerns about range. EVs are powered by photovoltaic (PV), battery, and ultracapacitor (UC) systems. The overall results of this arrangement are an increase in travel distance; a reduction in battery size; improved reaction, especially under overload; and an extension of battery life. Improved results allow the energy to be used efficiently, provide a comfortable ride, and require fewer energy sources. In this research, energy management between the PV system and the hybrid energy storage system (HESS), including the battery, and UC are discussed. The energy management control algorithms called Artificial Neural Network (ANN) and Aquila Optimizer Algorithm (AOA) are proposed. The proposed combined ANN–AOA approach takes full advantage of UC while limiting the battery discharge current, since it also mitigates high-speed dynamic battery charging and discharging currents. The responses' behaviors are depicted and viewed in the MATLAB simulation environment to represent load variations and various road conditions. We also discuss the management among the PV system, battery, and UC to achieve the higher speed of 91 km/h when compared with existing Modified Harmony Search (MHS) and Genetic Algorithm-based Proportional Integral Derivative (GA-PID). The outcomes of this study could aid researchers and professionals from the automotive industry as well as various third parties involved in designing, maintaining, and evaluating a variety of energy sources and storage systems, especially renewable ones.

Keywords: Artificial Neural Network; Aquila Optimizer Algorithm; battery; hybrid energy storage system; photo-voltaic system; ultracapacitor

check for updates

Citation: Narasimhulu, N.; Krishnam Naidu, R.S.R.; Falkowski-Gilski, P.; Divakarachari, P.B.; Roy, U. Energy Management for PV Powered Hybrid Storage System in Electric Vehicles Using Artificial Neural Network and Aquila Optimizer Algorithm. *Energies* **2022**, *15*, 8540. https://doi.org/10.3390/en15228540

Academic Editor: GM Shafiullah

Received: 4 October 2022
Accepted: 10 November 2022
Published: 15 November 2022

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.

1. Introduction

Due to technological innovations in storage, adjustable speed drives, etc., the appeal of electric vehicles (EVs) has increased recently [1,2]. The EV has fewer components than traditional fossil fuel-powered automobiles. It has many benefits, such as being extremely durable, quiet, and environmentally beneficial, among others [3]. In order to provide a consistent supply of electricity for a longer distance, more than one electrical energy source is recommended in EVs. In numerous nations, commercial solar-powered electric vehicles have been introduced for public usage [4]. They utilize the battery as a storage device to power an electric vehicle equipped with solar panels. While using multiple energy sources,

SI-VM based High Gain Non-Isolated DC-DC Converter for DC Microgrid

Gedela Ashish[1], R. Amaleswari[2], R.S.R. Krishnam Naidu[3]
[1]*P.G. Student, Department of EEE, NSRIT(A), Visakhapatnam, India*
[2]*Assistant Professor, Department of EEE, NSRIT(A), Visakhapatnam, India*
[3]*Associate Professor, Department of EEE, NSRIT(A), Visakhapatnam, India*

***Abstract*—DC microgrids are popular due to the integration of renewable energy sources such as solar photovoltaics and fuel cells. Owing to the low output voltage, highly efficient high gain dc-dc converters are needed to connect the dc microgrid. In this paper, a high gain DC-DC converter with 36V/380V, 100W is proposed. The proposed topology employs Switched-Inductor (SI) and Voltage Multiplier Cell (VMC) for gain extension mechanism. The simulation results are carried out in MATLAB/Simulink and results are presented.**

Keywords: Voltage Gain, high gain DC-DC Converter, Switched Inductor, Voltage Multiplier Cell

Nomenclature

V_{in} = input supply to the proposed converter
I_{in} = input current flow to the proposed converter
I_{L1} = current flowing through inductor L_1 of switched inductor cell
I_{L2} = current flowing through inductor L_2 of switched inductor cell
V_{d1} = voltage across diode D_1 of switched inductor cell
V_{d2} = voltage across diode D_2 of switched inductor cell
V_{d3} = voltage across diode D_3 of switched inductor cell
V_g = gate pulse applied to switch
V_{S1} = voltage stress across the switch
I_{S1} = current flowing through the switch
V_{d4} = voltage across diode D_4 of voltage multiplier cell
V_{d5} = voltage across diode D_5 of voltage multiplier cell
V_0 = output voltage of proposed converter
I_0 = current flowing through the load

I. INTRODUCTION

The combinations of basic step-up converter with gain extension techniques to obtain required voltage gain are introduced in [1] with low component count and medium duty ratio, to reduce switching stress and diode stresses. Voltage Multiplier Cells are incorporated in basic boost topology to extend gain value in [2]. An isolated current-fed AC to DC power converter is suggested in [3] for electric vehicle applications. This converter has high voltage gain with fewer components and constant input current. Paper [4] proposes hybrid switched inductor converter (non-isolated type) with huge voltage conversion ratio for PV applications. The converter proposed in [5] is designed for 24V input and 72W rating and operates in BCS and BDS.

A Multistage Switched Capacitor Quadratic Boost (MSC-QBC) DC-DC converter with dual outputs is discussed in [6]. The boosting operation with dual output is achieved by a conventional Boost Converter and Quadratic Boost Converter utilizing a single switch. A high gain DCM based DC-DC converter with low device stress and input current ripple is proposed in [7]. DC-DC converters with two boost stages at the input has been proposed in [8]. The gain of diode–capacitor Voltage Multiplier converter is increased by increasing the number of VM stages. Low input high output voltage converter topologies are designed in [9] [10] for renewable energy-based applications with high efficiency.

Coupled-inductor-based non-isolated DC converter with ultra-high voltage-conversion ratio is demonstrated in [11] with low voltage stress across diodes and capacitors. A converter with voltage lift stage, clamp mode stage and second boost stage is designed in [12] with voltage gain of 11.5. Converters in [13] [14] achieve high gain by incorporating voltage-lift technique in boost converter. Switched Inductor-Switched Capacitor based high gain converter with minimum stress on semiconductor devices is proposed in [15]. The converter has high voltage gain and stages can be extended to give higher voltage gain.

In this paper, a high gain DC-DC converter is proposed by incorporating switched inductor and voltage multiplier cells. Section I gives introduction and section II gives types of converters. Section III

Original Article

Review On Analysis Of Dc-Dc Converters For Microgrid And Electrical Vehicle Applications

Amaleswari R*, A.Bhagat, Ch. Janani**, G. Srinivas**, N. Ramesh****

*Assistant Professor, Electrical and Electronics Engineering, Nadimpalli Satyanarayana Raju Institute of Technology (Autonomous), Sontyam, Visakhapatnam, Andhra Pradesh, India.
** UG Student, Electrical and Electronics Engineering, Nadimpalli Satyanarayana Raju Institute of Technology (Autonomous), Sontyam, Visakhapatnam, Andhra Pradesh, India.
‡ Corresponding Author; R.Amaleswari, Assistant Professor, Nadimpalli Satyanarayana Raju Institute of Technology (Autonomous), Sontyam, Visakhapatnam, Andhra Pradesh, India.
DOI: 10.47750/pnr.2022.13.S07.629

Abstract

Due to increase of environment pollution and global warming, we are being adopted to electrical vehicles. In recent years, the proliferation of renewable energy sources (RES) like solar, wind, fuel cells, etc. has positively impacted the existing electrical power system network. Also, the usage of Electric Vehicles (EVs) is increasing due to its efficiency and pollution free aspects. By 2040, the estimated count of the electrical vehicles will be more than 350 million all over the world. In India, two wheelers and three wheelers are constituting about 83% of total vehicles. 13% are economy cars. As there are many components in the electrical vehicles, the converter plays a main key role in the electrical vehicles. Converters are mainly used to supply the different voltage levels for different equipment in EVs.

In this paper, we are analyzing different types of converters, their switching losses and efficiency.

Keywords- Electric vehicles (EVs), DC-DC Convertors, DC-AC convertor, AC-AC convertor, Battery, Voltage Multiplier Cell.

1. Introduction

Green mobility or Electric vehicle is now becoming a need of the current era to meet the environmental target of zero emission.EVs must be sustainable for society and it will be achieved by the Electric vehicle architecture. Vehicle architecture needs to be flexible so it can adopt drive train electrification.

ICE vehicle architecture is specific and complex to understand but an advantage point in EV is that there is a new freedom for design, in the design of new components and implementation in electric car architecture. Electric vehicles have an electric motor and a battery instead of a combustion engine and a fuel tank. The Electric vehicle architecture consists of 5 important components and through this component, the powertrain is completed in EV, such as the Electric motor, Battery pack, and Inverter, Charger, DC-DC converter, etc. The architecture becomes simple and controllable for the component level. These modifications require extensive adoptions to integrate the battery safely.

The EV needs an onboard or off-board battery charger ("ac–dc + dc–dc" converter) and a low-voltage (12-V) battery for other low-voltage and non propulsion loads [1]. Plug in hybrid electric vehicles (PHEV) provides technology for charging the battery of vehicles at the home or at charging station in night and parking time of the vehicles. EVs are lagging behind because of: high cost as compared to the fluid based vehicles, take more time to recharge, lack of much growth in battery infrastructure.

In general, solar photovoltaic (PV) panel gives less output voltage and varies from 5V to 60V. In EVs the electric motor gets power from low voltage battery system and amplified to the required motor voltage [2].

Simulation of Reduced Switch Multilevel Inverter With New Topology For Less THD

Dhineshkumar Krishnan
Department of Electrical and Electronics Engineering,
KIT-Kalaignarkarunanidhi Institute of Technology (Autonomous)
Coimbatore, Tamilnadu,
mkdhinesh@gmail.com

Prakash G
Department of Electrical and Electronics Engineering
Sri Sairam Institute Of Technology,
Sai Leo Nagar, West Tambaram,Chennai
pgprakash82@gmail.com

N Vengadachalam
Department of Electrical and Electronics Engineering,
Malla Reddy Engineering College for Women(Autonomous),
Telangana, India
punniyamme@gmail.com

RAmaleswari
Department of Electrical and Electronics Engineering,
Nadimpalli Satyanarayana Raju Institute of Technology (Autonomous),
Visakhapatnam, Andhra Pradesh,
rajulapatiamaleswari2022@gmail.com
K.Eswaramoorthy

Department of *Electrical and Electronics Engineering,*
Narsimha Reddy Engineering College (Autonomous),
Telangana, India
keswaramurthi@gmail.com

2022 International Conference on Computer, Power and Communications (ICCPC) | 979-8-3503-9784-0/22/$31.00 ©2022 IEEE | DOI: 10.1109/ICCPC55978.2022.10072047

***Abstract*— The Multi-Level Inverters (MLI) are paid wider attraction to develop stepped voltage profile imitation sinusoidal and miserable Total Harmonic Distortion (THD). Many normal geometries are suggested to understand MLI; even so, the drawbacks of those same architectures could include so much Voltage levels and electricity equipment, as well as lower THD, that either raises both the cost and magnitude of the system. To help with cutting edge flow studies in this theme and in the choice of reasonable inverter at different presentations. By using n of these sections, both recommended MLI architecture, i.e., PS1 as well as PS2, may integrated 4n+5 and 4n+7 levels, independently at the produce but instead of 2n+3 levels with solely RSHB MLI. The dual distributed energy resources employed in the systems.**

Keywords—Level Magnifying Circuit (LMC), Level per Component Ratio (LCR), Multi-Level Inverter (MLI), Total Harmonic Distortion (THD), Photo Voltaic (PV) system, Pulse Width Modulation (PWM),

I. .INTRODUCTION

An electromechanical generator called inverters converts direct current to ac power (AC). In a home, the stabilizer is mostly utilized for control and protection. The capacity of an aeroplane is distributed from DC to AC using the inverter as part of several internal service mechanisms. Photovoltaic equipment often employs AC controls. such as lamps, radars, radios, motors and other devices. Nowadays numerous technical applications require high performance. Only a limited apparatuses in the scheme may need standard or low control for their duty. Using a dominant foundation for each modern load can be useful for some devices that need high power but can damage alternative loads. Nearly average voltage apparatus and utility application regulations require medium voltage. Multilevel inverters have been used as an option in the high power and medium voltage range since 1975. The stepped or multilevel inverter is similar to a sinusoidal inverter and is used for present solicitations as an alternative in the medium to high power voltage range applications. In order to generate a powerful maximum power out of a moderate voltage, a multilevel converter is necessary. Battery packs, ultra capacitor, and electronic parts are examples of standard size supplies that rely on daylight.

This modular power section design for asymmetric inverters can be organized to allow for multiple outputs with four unequal DC voltage inputs. The module can produce a total of thirteen voltages from the power sources. Additionally, it has better EMI capabilities.. Also, this module will produce a negative level with none further circuit suggestive Cascade bi-directional H-bridge dimmer with automatic voltage stress reduction is designed to provide reduced switching stress. This improved operating characteristics of H-bridge results in smoother boundary, lower crashed voltage, and lower voltage stress. The design benefits from the matrix structure of transistor switches. Level output can be achieved by adjusting the duty ratio. It also utilizes Pulse dimension Modulation (PWM) and MATLAB for mathematical modeling, and offers full Waveform and Harmonics Comparison. We have also presented a practical lab set-up, and provided test results that validate key circuit performance parameters. [1]

The standard cascaded H-bridge inverter integrated with photovoltaic (PV) system for single phase or grid-connected applications. The cascaded multilevel inverter topology that the standard H-bridge approach does have disadvantages. Distributed maximum PV enlightenment control (MPSv) concept for a cascaded multilevel unit, which permits freelance control of displaced power that permits thoughtful utilization of each PV and higher interchange of the PV system among the DC link voltages. As: PV mismatch can lead to unbalanced injected current, which can make. A current modulation compensation scheme, which could cause many potential problems, was chosen to make the grid current consistent with the grid voltage. This can have a negative effect on the system quality and cause extra power loss.[2].

The design of the multilevel inverter has become researched where there used to be numerous cascaded implementations met with a number of variations related to multiple DC sources. The 9 stage multilevel inverter structures use a single DC source, i.e., Photovoltaic, while in the traditional multilevel inverter, it shapes primary for varied input DC sources. The single phase transformer is adjusted additionally by multiple–phase linearly–

Automatic Bottle Filling Using Plc

K.S.Ramanjaneyulu[1], R.Naresh[2], G.kartheek[3], A.Srinivasu[4], K.karthik[5], M.Prasanth[6], R.Lavanya latha[7]
[1]*M. E, Ph. D, Assistant Professor of Electrical and Electronics Engineering, Nadimpalli Satyanarayana Raju Institute of Technology*
[2,3,4,5,6,7] *Students, Department of Electrical and Electronic Engineering of Nadimpalli Satyanarayana Raju Institute of Technology(A)*

Abstract: **The objective of our project is to design, develop and monitor "Automatic bottle filling system using PLC". This work provides a lot of benefits like low power consumption, low operational cost, less maintenance, accuracy and many more. This project is based on Industrial automation and is a vast application used in many industries like milk industries, chemical, food, mineral water and many industrial manufacturers. A prototype has been developed to illustrate the project**

Filling is the task that is carried out by a machine and this process is widely used in many industries. In this project, the filling of the bottle is controlled by using a controller known as PLC which is also the heart of the entire system. For the conveyor system, a dc motor has been selected for better performance and ease of operation. A sensor has been used to detect the position of the bottle. In our project we have used less number of systems hence the overall cost has been reduced to an extent. Ladder logic has been used for the programming of the PLC, which is the most widely used and accepted language for the programming of the PLC. The PLC used in this system is a MELSEC FX-1N which makes the system more flexible and easy to operate

I. INTRODUCTION

The project is based on industrial automation and PLC is the heart of automation. The hardware and the software are the two important areas in our project.

1) HARDWARE DESCRIPTION: In this project, MELSEC FX1N-24 is used for controlling the inputs and outputs. Input supply to the PLC is given through a SMPS. The rating of the SMPS is 24VDC 5 Amps. The PLC used here is a compact PLC which has a fixed number of inputs and outputs. In this kind of PLC model, the CPU contains 14 digital inputs and 10 digital outputs. One diffuse photoelectric sensor has been used for the positioning of the bottles. A geared DC motor has been used for running the conveyor system. The rating of the DC motor is 12V and 50 RPM speed with a high starting torque of 70 Kg-cm (at no load). Toggle switches are used to serve the purpose of some inputs to the PLC.

2) SOFTWARE DESCRIPTION: There are five important languages which are used for the programming of the PLC. The list of the methods are as follows: ● Functional block diagram (FBD) ● Structure text ● Instruction list ● Flow chart ● Ladder diagram Out of these five languages, ladder is the most widely used language and is simple as compared to other languages. Ladder diagram has been used for the programming of this PLC is the most widely used language and is simple as compared to other languages. Ladder diagram has been used for the programming of this PLC

II.LITERATURE SURVEY

1.An Automated Bottle Filling Project For Freshman Engineering Students –June 2005 In this paper the researchers Kala Meah, Timothy Garrison , York College of Pennsylvania at all.. The students work in small teams and have r toughly 12 weeks to design an automated electromechanical system that first transports three empty bottles, three tennis balls. The machine must fill each bottle of water, filled bottles to an area outside of the operational zone.

2. PLC Based Automatic Bottle Filling System With User Defined Volume Selection -8thAugust 2012.In This Research Paper the researchers T. Kalaiselvi, R.Praveena at have develop an automatic bottle, filling system with a mechanism using sensors. Automatic filling process for all the bottles simultaneously with a user defined selection for volume to be filled.

Different height Using Programmable Logical Controller –14th July 2013.In This Research Paper the researcher MALLARADHYA H M, K R PRAKASH have Design and Develop an automated liquid filling

Original Article

Implementing Heuristic Based Controller In Renewable Energy Based Smart Grid System

Mr. P.Mahesh[1], Dr. R.S.R. Krishnam Naidu[1*], Y. Naga Sowmya Sree[2] , A. Aswini[3] , J.Ashok kumar[4], K.Vamsi krishna[5]

[1] Assistant Professor, Department of EEE, N S Raju Institute of Technology(A), Sontyam , Visakhapatnam
[1*] Associate Professor, Department of EEE, N S Raju Institute of Technology(A), Sontyam , Visakhapatnam
[2,3,4,5] UG Student, Department of EEE, N S Raju Institute of Technology(A), Sontyam, Visakhapatnam
DOI: 10.47750/pnr.2022.13.S07.625

Abstract

The development and implementation of Demand response (DR) projects are proposed using an efficient and adaptable household energy management system. These are classified as part of the smart grid's hybrid generation of Energy Storage Systems (ESS), Photovoltaic's (PV), and Electric vehicles (EVs). Existing home energy management systems are unable to give their consumers a choice in order to ensure User comfort (UC) and do not offer a long-term solution for lowered carbon emissions.

This study paper suggests using a Heuristic-based programmable energy management controller (HPEMC) to control energy consumption in residential buildings in order to minimise electricity costs, reduce carbon emissions, increase UC, and lower the peak-to-average ratio (PAR).In order to schedule smart appliances optimally and achieve our desired goals, we combined our proposed hybrid genetic particle swarm optimization (HGPO) algorithm with already-existing algorithms like the Genetic algorithm (GA), Binary particle swarm optimization algorithm (BPSO), Ant colony optimization algorithm (ACO), wind-driven optimization algorithm (WDO), and bacterial foraging algorithm (BFA). In the suggested scenario, consumers generate their own electricity from microgrids using solar panels. We also run MATLAB simulations to verify our suggested HGPO-HPEMC (HHPEMC), and the results show that our suggested HPEMC-based method is effective and productive. In comparison to the situation without scheduling, the Suggested algorithm lowered the cost of power generation and carbon emission.

1. INTRODUCTION

With the population expansion and energy demand is rising quickly over the world. The majority of conventional power plants use fossil fuels to produce 64.5% of the world's electricity [1]. These power plants create a bigger proportion of carbon emissions, with the transport sector [2] producing 24% and the generation sector [3] emitting almost 40%. Additionally, academics have developed novel techniques for energy generation using renewable energy sources to meet the dramatically expanding energy demand with lower carbon emissions (RESs).

We must upgrade current power grids to smart grids in order to use these resources efficiently (SG). "A SG is an electrical supply network that can intelligently incorporate the behaviours of all users linked to it such generators, consumers, and prosumers (all those do both generation and consumption)," according to [2]. Smart metres (SMs), smart appliances, RESs, and batteries are a few examples of the numerous types of gadgets that SGs can work with. The major goal is to manage electricity production, transmission, and distribution using contemporary methods. In SGs, there is two-way communication between the end-user and the electric utility companies (EUCs). Additionally, two-way communication in Singapore keeps users informed about their electricity bills and enables them to watch and review.

Original Article

Review On High Voltage Direct Current (Hvdc) Transmission System

Mr.K.M.M. Tarakesh[1], Ms.Ch. Chudamani[2], Mr.D. Dinesh[3], Ms.B. Priyanka[4]

[1]Assistant Professor, Department of EEE, N S Raju Institute of Technology(A),Sontyam ,Visakhapatnam
[2] UG Student, Department of EEE, N S Raju Institute of Technology(A), Sontyam, Visakhapatnam
[3] UG Student, Department of EEE, N S Raju Institute of Technology(A), Sontyam, Visakhapatnam
[4] UG Student, Department of EEE, N S Raju Institute of Technology(A), Sontyam, Visakhapatnam
DOI: 10.47750/pnr.2022.13.S07.626

Abstract

In early days of electricity supply, firstly we use to transmit electric supply in direct current (DC) mode. At firstly the electricity was generated by Thomas Alva Edison in 1980s was DC only. The main drawback of direct current (DC) was, it can only used for long transmission system only. To overcome this drawback leads to invention of alternate current (AC). This paper details about High Voltage Direct Current (HVDC) Transmission System, which works on the components like converting stations, converting units, converting valves, DC filters, AC filters, capacitor bank, transmission medium. This paper also detail about design, construction, operation and maintenance of HVDC transmission system.

Another important lead for invention of AC is economical impact. DC is used for supply of long transmission systems, which leads to increase in cost for short transmission systems. It also details about applications of HVDC transmission system.

- The first commercial HVDC transmission system as established in Gotland 1 in Sweden 1954.
- The first commercial HVDC transmission system in India at Rihand-Dadri in 1991.

Keywords—component, formatting, style, styling, insert (key words)

I. INTRODUCTION

Power Transmissionis important and tough task in electric system. HVDC(high voltage direct current) is first transmission system ,later on LVDC(low voltage direct current) was introduced.The main disadvantage of HVDC is it increases cost .HVDC is economically high other than that HVDC have less losses than AC transmission. For long -distance power transmission HVDC is highly usefully.

Historical Perspective on HVDC Transmission It has been widely documented in the history of the electricity industry, that the first commercial electricity generated (by Thomas Alva Edison) was direct current (DC) electrical power.

The first electricity transmission systems were also direct current systems. However, DC power at low voltage could not be transmitted over long distances, thus giving rise to high voltage alternating current (AC) electrical systems. Nevertheless, with the development of high voltage valves, it was possible to once again transmit DC power at high voltages and over long distances, giving rise to HVDC transmission systems.

Some important milestones in the development of the DC transmission technology are presented in Box 1

Original Article

A Review on Decentralized Control Techniques in a Microgrid using various Hybrid Energy Storage Systems

V. Usha Rani[1], A. Divya[2], A. P. Vinay[3], K. D. Sai Charan[4], I. Janarthan Kumar[5]

[1]Assistant Professor, Department of Electrical and Electronics Engineering, Nadimpalli Satyanarayana Raju Institute of Technology (A), Visakhapatnam, AP, India.

[2,3,4,5]UG Student, Department of Electrical and Electronics Engineering, Nadimpalli Satyanarayana Raju Institute of Technology (A), Visakhapatnam, AP, India.

DOI: 10.47750/pnr.2023.14.03.206

Abstract

The centralized power grid abides a heavy burden while consumers expect an uninterrupted reliable power supply. Further complexities increase by a satisfying reduction in carbon emissions, increased efficiency within the national grid and power supplied to remote communities. This has led to alternatives being sought for centralized power generation, which is prone to outages due to long distance transmission. This is a substantial contributor to global carbon emissions, has large transmission losses and is often not a practical solution when supplying remote communities. Distributed generation (DG) becomes an alternative in this context by producing power close to its point of consumption, often utilizing carbon neutral, renewable energy (RE) sources (sun, wind). Apart from many benefits of the microgrid, there are several problems and challenges in the integration with power systems in terms of control and stability issues. To overcome such issues, Energy Storage Systems (ESSs) may be the next solution level in the enhancement of system stability with quality power supply. In this paper, a brief review of the microgrid architecture, their challenges, the control topologies, and techniques have been discussed. Hybrid energy storage systems (HESSs) characterized by the coupling of energy storage technologies are emerged as a solution to achieve the desired performance by combining the appropriate features of different technologies. Exploration of different researchers confirms that the control of ESSs has an effective role in stability analysis, economic analysis of MGs. A discussion about the control methods of Microgrid with ESSs and future trends are also presented. As single ESS technology cannot fulfill the desired operation due to its limited capability and potency in terms of lifespan, cost, energy and power density, and dynamic response, different ESSs operation configurations considering storage type, interface, control method, and the provided service have been proposed.

Keywords: Microgrid; Stability Analysis; Energy storage systems; Hybrid energy storage systems; Automatic control mechanism.

1. INTRODUCTION

Conventional power networks have emerged rapidly now days, causing the power grid instability due to their inability to meet various power demands. In order to maintain the reliability of the conventional power system, a few control parameters such as demand driven operation, unidirectional power flow and centralized power generation must be modified. DERs (Distributed Energy Resources) such as Fuel cells, Wind Turbines, and Photovoltaic systems have been outstretched as some of the best renewable energy technologies for creating a sustainable energy economy and compatible with environmental problems. DERs can contribute to decline the effects of greenhouse gases. On the other hand, they have their own flaws, as these resources depend on the weather, and any substantial variations in weather can decrease the power generation.

Distributed generation, particularly renewable energy, has two major disadvantages averting its integration into residential/commercial properties [1]. The first is the intermittent nature of its power output [2]. Eg. Photovoltaic modules or small-scale wind turbines. The output power of each fluctuates with the energy produced by the sun and wind respectively, causing variations in magnitude frequently over the course of a day [3]. The second is the financial capital required to install RE sources and the lengthy payback time before seeing a financial return [4]. These inadequacies can be addressed from a control system point of view, to optimize supply and demand [5]. Microgrids combine a variety of DG and optimize its use to meet the power demands of small communities, hospitals and university campuses etc. [6] [7] [8]. Microgrids are considered as the small-scale local grids with high diffusion of distributed generation (DG) units and renewable energy technologies. Microgrids help reduce power outages.

Although, MG brings many opportunities, also is escorted by several challenges. Firstly, the low voltage network conversion from passive to active. Secondly, increase in complexity due to the use of Power Electronics for the conversions. Thirdly, DERs with various generation attributes i.e. Hybrid, AC and DC create problems in voltage and frequency regulation and lastly, the two possible modes of operations viz., grid-tied and islanded modes.

International Journal of All Research Education and Scientific Methods (IJARESM), ISSN: 2455-6211
Volume 10, Issue 6, June-2022, Impact Factor: 7.429, Available online at: www.ijaresm.com

Design and Development of Mobile Operated Wheel-Chair

V. Usha Rani[1], B. Indira[2], D. Manikanta[3], K. Venu[4], M. Jagadeesh[5], N. Divakar[6], S. Venkatesh[7], Sk. Tajuddin[8]

[1]Assistant Professor, Department of Electrical and Electronic Engineering NSRIT(A), JNTUK, India
[2,3,4,5,6,7,8]Students of NSRIT(A), Department of Electrical and Electronic Engineering, JNTUK, India

----------**********----------

ABSTRACT

Technology has made a drastic change in the medical field but there are still some people facing some problems. This wheelchair is fully automated and created especially for patients and elderly people. This is not only a smart wheelchair but also a deception wheelchair controlled by Arduino UNO with the support of some special equipment and system. This is created to solve some ridiculous problems such as physically disabled people facing problems in moving and the energy of patients being wasted in operating a manual wheelchair. Besides that, the helper becomes tired from pushing the wheelchair with the patient. Moreover, patients easily get injured while shifting from wheelchairs to bed. So, the objective of this invention is to solve the problem of three main people in one shot. They are the patients or disabled people, elderly people, and also the helper.

Index Terms – BLDC, Arduino, Blink

I. INTRODUCTION

Now a days, the mobiles have become part and parcel of everyone's daily life. Many applications can be deployed using the smart phones, with much ease. One of such innovation in the field of Medical Assistance is the Smart Wheel Chair. The Smart Wheel Chair can be operated using a Joystick operation installed in the smart mobile.

A wheelchair is a combination of chair and wheel that is widely used as the transportation but in this project, the wheelchair is focused on medical options that are designed for disabled, injured or ill person. Usage of an electrical wheelchair leads to a large amount of independence for persons with a physical disability who can neither walk nor operate a mechanical wheelchair alone as it requires great effort and the help of other people.

The purpose is to reduce or eliminate the extra person for moving a wheelchair. Usually, a smart wheelchair is controlled via a computer or electronic device sensor, which has a suite of sensors and applies techniques in mobile robotics.

Electric-Powered Wheel Chair has already been designed in [1], where there are a few drawbacks which is that the user cannot reach to the wheelchair. For that purpose, there again needs aid of another person to bring the wheel chair. The same drawback is overcome by this research. The main objective of the project is to move the Wheel Chair with help of one's own mobile to drive the Wheel Chair to them as well as move from one place to another, either by sitting on it or without sitting on it.

II. DESIGN OF WHEELCHAIR

There are various kind of Wheel Chairs in the availability. The classification of Wheel Chairs is majorly into two types. Manual and Electric. Manual Wheel chairs will require an extra effort to move the Chair. But in Electric Chairs, the power helps in moving the chair. Also, there are foldable and rigid type wheel chairs. Mostly, the rigid chairs are preferred. The rigid chairs have welded joints, with some moving parts.[3]

In Wheelchair, there are several parts. They are

1. BLDC Motor
2. Arduino
3. Bluetooth
4. Microcontrollers
5. Battery

Original Article

Review On Maximum Powerpoint Tracking (Mppt) Techniques

Mr.A.Bala Raja Ram[1] , Dr.R.S.R.Krishnam Naidu[2] , Mr.K.Uma Maheswar[3] , Ms.N.Divya[4] , Mrs.S.Vasanthi[5] , Mr.D.V.Sai Rakesh[6]

[1]Assistant Professor Department of EEE NSRIT(A)
[2]Associate Professor Department of EEE NSRIT(A)
[3]Student Department of EEE NSRIT(A)
[4]Student Department of EEE NSRIT(A)
[5]Student Department of EEE NSRIT(A)
[6]Student Department of EEE NSRIT(A)
DOI: 10.47750/pnr.2022.13.S07.825

Abstract

Renewable energy–based solar photovoltaic (PV) generation is the best alternative for conventional energy sources because of its natural abundance and eco-friendly behavior. But high cost and low efficiency of PV panels are the biggest challenges for solar energy systems. To overcome the non-linear characteristics under all circumstances, maximum power point tracking (MPPT) helps us to obtain maximum efficiency from PV panel. MPPT algorithms are practical solutions to ensure the continuous operation of PV systems. This paper presents an organized and detailed review of MPPT techniques implemented for PV systems. There are conventional MPPT algorithms such as Perturb and observe (P&O) and Incremental conductance (INC) and soft computing techniques such as Fuzzy logic. Control (FLC), Cuckoo search (CS), Crow search algorithm (CSA) and whale optimization algorithm (WOA). So, this paper provides comparison of these MPPT techniques which will give us an idea to select the most prominent MPPT technique for further research.

Keywords: Maximum power point tracking, perturb and observe, Incremental conductance, fuzzy logic controller, cuckoo search, PV cells.

I. Introduction:

Electric Power generation using solar photovoltaic technique has become the most feasible option in recent times. With the draining of fossil fuel reserves and the increase in concerns of global warming and environmental pollution which led to a rise in the usage of solar PV for electricity generation. Photo-voltaic energy originates from converting solar-powered radiation into electrical energy. The energy generated from the PV cell is clean and less affected by noise and its maintenance cost is comparatively low. Factors such as temperature, solar irradiance and shading conditions effect the energy produced. The voltage-current(V-I) characteristics of PV cell is non –linear which changes with the level of solar irradiation and temperature. The voltage power (V-P) characteristic curve of PV cells has a particular point at which it produces maximum power. With the change in climatic or atmospheric conditions, the maximum power point also changes. This causes inconsistency between the load and source characteristics, which leads to decrease in the maximum power delivered to the load. Maximum power point tracking is used to match the characteristics of the PV module with load and decreases the power losses. To overcome the efficiency problem of PV cells and obtain maximum efficiency, it is mandatory to optimize the design of all parts of the PV system. A DC-DC converter is used to tackle maximum power which is placed in the middle of PV panel and load by adjusting the duty cycle of it, which acts as a medium between the PV module and load. For extracting maximum power supplied by PV modules, various MPPT techniques such as

Original Article

A Review On Brushless Dc Motor Control Techniques

Bokam Divakar[1] , Dr.R.S.R.Krishnam Naidu[2] , G Divya[3], SYugandhar[4], G Mani Deepak[5], D Sindhusha[6]

[1]Assistant Professor of Electrical and Electronics Engineering Nadimpalli Satyanarayana Raju Institute of Technology

[2]Associate Professor of Electrical and Electronics Engineering Nadimpalli Satyanarayana Raju Institute of Technology

[3,4,5,6] Students of Department of Electrical and Electronics Engineering Nadimpalli Satyanarayana Raju Institute of Technology

DOI: 10.47750/pnr.2022.13.S07.824

Abstract

This paper deals with the different control strategies used in the operation of Brushless motors, which generally refer to Permanent-Magnet Motors. These motors are becoming increasingly popular in industrial applications due to their high-efficiency, fast dynamic response and compact size. Until recently, programming and implementation costs of high-performance control algorithms for these motors have been prohibitive. However, great strides have been made by manufacturers such as Microchip, Freescale, IRetc to facilitate these algorithms in the architecture for their processors. This has brought down the development costs significantly and opened up whole new avenues for Brushless Motor.

KEYWORDS : Brushless Motors, Permanent Magnet Motors, Trapezoidal Control, Sinusoidal Control, Field Oriented Control, Pulse Width Modulation

1.INTRODUCTION:

A Brushless Motor consists of a Permanent Magnet which acts as the rotor. The rotor is

surrounded by three equally spaced fixed stator windings as shown in figure 1. The current flow in each winding produces a magnetic field vector which sums up with each other to form a resultant magnetic field. Torque is produced in the motor by the attraction or repulsion between this net stator magnetic field and the magnetic field produced by the permanent magnet, i.e. rotor. By controlling the current flow in the three windings, a magnetic field of arbitrary direction and magnitude can be produced by the stator and thereby, the torque produced can be controlled. The conventional Brushed motors commutate itself with the use of a mechanical commutator whereas brushless motors need electronic commutation for the directioncontrol of current through the windings[1].

Temperature and Face Mask Scan Entry System

Mrs. S.Yamini[1], D.Gowtham[2], K.Uma maheswari[3], B.Karthik[4], K.Prudhvi yadav[5], P.Siva rama krishna[6], U.Sai krishna[7]

[1]*M.Tech, Assistant Professor of Electrical and Electronics Engineering, Nadimpalli Satyanarayana Raju Institute of Technology*

[2,3,4,5,6,7] *Students of Department of Electrical and Electronic Engineering of Nadimpalli Satyanarayana Raju Institute of Technology*

***Abstract*— COVID 19 pandemic is causing a global health epidemic. The most powerful safety tool is wearing a face mask in public places and everywhere else. The COVID 19 outbreak forced governments around the world to implement lockdowns to detect virus transmission. According to survey reports, wearing a face mask at public places reduces the risk of transmission significantly. A machine learning model for monitoring body temperature and face mask detection. The proposed model can be used for any shopping mall, hotel, apartment entrance, etc. As an outcome a cost-effective and reliable method of using AI and sensors to build a healthy environment. Evaluation of the proposed framework is done by the Face Mask Detection algorithm using the open-CV software library. Besides, the body temperature of the individual is monitored using a non-contact temperature sensor.**

1.INTRODUCTION

Since the last days of the previous year, the occurrence of novel infectious flu-a like respiratory disease COVID-19 caused by SARS-Cov-2 virus (also known as corona virus) has affected almost every aspect of people's lives globally. However, the crucial problem is the lack of approved vaccine and medication due to these facts, many protection and safety measures were taken by governments in order to reduce the disease spread, such as obligatory indoor mask wearing, Social distancing, quarantine, self-isolation etc.., We focus on most common indoor measures - people with high body temperature should stay at home, wearing mask is obligatory and distance between persons should be at least 1.5-2 meters.

The purpose of the project is to detect the person perfectly wearing mask or not and temperature detection of the person if the both are correct then the door allows the person in. The first step to detect COVID is by scanning for fever. Also, we need to monitor every person for a mask. We have temperature checking systems for every entrance for scanning but manual temperature scanning has a lot of disadvantages. To solve this problem, we here propose a fully automated temperature scanner and entry provider system. It is a multipurpose system that has a wide range of applications. The system makes use of a contactless temperature scanner and a mask monitor. The scanner is connected directly with a human barrier to bar entry if high temperature or no mask is detected. Any person will not be provided entry without temperature and mask scan. Only person having both conditions is instantly allowed inside. The system uses temperature sensor and camera connected with a raspberry pi system to control the entire operation.

BLOCK DIIAGRAM:

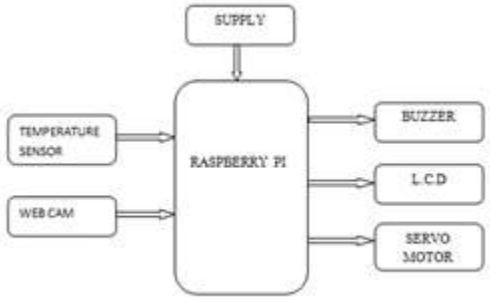

Fig 1.1 block diagram

EXPLANATION

The purpose of the project is to detect the person perfectly wearing mask or not and temperature detection of the person if the both are correct then the door allows the person in and there will be automatic sanitization these consists of temperature sensor, raspberry Pi model 3b also we are using a IOT based technology to store the data and some other

Original Article

THD Reduction And Power Quality Improvement In Grid Connected PV System Using PI Controller

Mrs.S.Yamini[1], K.Revathi[2], P.Yerni Baby[3], P.Uday Srinivas[4]

[1] Assistant Professor, Department of EEE, N S Raju Institute of Technology(A),Sontyam , Visakhapatnam
[2] UG Student, Department of EEE, N S Raju Institute of Technology(A), Sontyam, Visakhapatnam
[3] UG Student, Department of EEE, N S Raju Institute of Technology(A), Sontyam, Visakhapatnam
[4] UG Student, Department of EEE, N S Raju Institute of Technology(A), Sontyam, Visakhapatnam
DOI: 10.47750/pnr.2022.13.S07.628

Abstract

In the last few years, several concepts have been developed in the field of Power Quality (PQ) improvements. Characteristics of PQ play a significant part in power system based applications. Nowadays, technologies in Renewable Energy Source (RES) have got more opportunities for promoting Photo-Voltaic (PV) to generate electric power It will change the reliability and stability of entire power system, also generates the switching frequency with irregular manner and difference within the certain region. In this paper, an MPPT technique is applied in grid connected PV system to harness maximum available power available from sun. The shortcomings of current inverter functions which link PV systems to the utility network are enhancing transparent as PV penetration levels proceed to develop. In this paper an analysis of solar system connected with the grid has been done. The system is subjected with two types of perturbations, i.e. variable load and the variable irradiance level which vary the output of the solar system. Solar cell works on the principle of photo voltaic effect, which has nonlinear voltage and current characteristics. These characteristics are improved with the help of maximum power point tracking (MPPT) controller. MPPT controller helps to feed the inverter with maximum power from the solar system. Results indicate that in the presence of grid disturbances the inverter can respond dynamically to help restore the power system back to its normal state. A harmonic analysis was also performed.

Keywords— photovoltaic system, maximum power point tracking, power quality improvement, total harmonic distortion. PI Controller

1. Introduction

Amongst the renewable source of energy, the photovoltaic power systems are gaining popularity, with heavy demand in energy sector and to reduce environmental pollution around caused due to excess use of non-renewable source of energy. Several system structures are designed for grid connected PV systems. Four different kinds of system configuration are used for grid connected PV power application: the centralized inverter system, the string inverter system, the multi-string inverter system and the module integrated inverter system. The main advantages of using a grid connected PV systems are: effect on the environment is low, they can be installed near to the consumer, thereby transmission lines losses can be saved, cost of maintenance in the generating system can be reduced as there are no moving parts, system's modularity will allow the installed capacity to expand and carbon dioxide gases are not emitted to the environment. By year 2020 the European Union aims to get 20 % of its energy from renewable sources [1]. One of the technologies helping EU reach this goal is photovoltaic (PV) power generation, which has grown rapidly in Europe due to governmental support. PV systems are a competitive

Original Article

A Review On Autonomous Vehicles And Its Components

Mr.K.Naveen[1], M.Lokesh[2], K.N.J.L. Varma[3], P.S.V.Teja[4]

[1] Assistant Professor, Department of EEE, N S Raju Institute of Technology(A),Sontyam , Visakhapatnam
[2] UG Student, Department of EEE, N S Raju Institute of Technology(A), Sontyam, Visakhapatnam
[3] UG Student, Department of EEE, N S Raju Institute of Technology(A), Sontyam, Visakhapatnam
[4] UG Student, Department of EEE, N S Raju Institute of Technology(A), Sontyam, Visakhapatnam
DOI: 10.47750/pnr.2022.13.S07.836

Abstract

From the records of the National Highway Traffic Safety Association nearly 1.35 million face fatalities in vehicle related accidents every year. And almost 94% of these accidents are caused by user error. Globally there are 700 casualties per day due to vehicle accidents. Autonomous driving is a propitious technology to minimize traffic accidents and ameliorate driving efficiency. From the debut of machine learning (ML) and and Deep Reinforcement Learning (DRL) these accidents can be reduced up to a greater extent. Machine learning (ML) allows the vehicle to collect data on its surroundings from sensors and detectors, interpret the data and decide what action should be performed. It is one most advanced and ensures the increase of safety and security of all the participants involved in the traffic. This Paper discusses about how an autonomous vehicle works and what are components it uses to interact with its surrounding area as to make suitable decisions.

Keywords-Autonomous Vehicle, Machine Learning (ML), Sensors, Artificial intelligence (AI), Automation.

1.Introduction

With the recent developments of Artificial Intelligence (AI) research towards Autonomous Driving vehicles has gone high. This self-driving vehicle systematically utilizes the modern devices such as cameras, Radars, laser Radars, Multi Sensors to sense what is happening around its surroundings, so it can take proper action effectively in a safe manner.

In Autonomous vehicles we mainly focus on Four main aspects such as Perception, Decision-making, Planning and Control. Perception Indicates the ability of autonomous vehicle to understand its surroundings with the help of various sensors such as Global Positioning system (GPS), Radar, Lidar.

Decision-making oversees vehicle behaviour including steering, Braking, Acceleration, Lane Changing, Parking. Planning Function helps the autonomous Vehicles to find the obstacles such as vehicles, pedestrians to find a proper running trajectory to reach our destination. Control method is based on Artificial Intelligence to process the data collected from different sensors to control the vehicle and support various Autonomous driving tasks. These vehicles are equipped with communication devices to access real-time information not available before, such as speed and position of preceding vehicles, signal phase and timing (SPT), roadway curvature and slope, etc.

One of the reasons for people to choose Autonomous vehicle over a conventional vehicle is its safety measures. The main cause of road accidents is due to human error only. About half of these accidents occur among pedestrians, motorcyclist.

According to WHO about 3%of Gross National Product of a typical country is been invested on treating the injured personals and damage cost. But with the widespread acceptance of Autonomous vehicles, we can reduce the human error and have a chance to reduce the road accidents by approximately 90 percent. Smooth acceleration and deceleration of autonomous vehicles promise to reduce the fuel wastage, as opposed to human drivers. Most importantly, the widespread adoption of electric vehicles can reduce the impact of fossil fuel-based vehicles in terms of infrastructure and emissions.

In this paper we mainly focus on how and where the Machine Learning (ML) is being used in an Autonomous Vehicle and what is impact of it on human safety.

Original Article

Methodologies In Battery Management System For Electric Vehicles – A Brief Review

D. Sahitya Devi*, Amaleswari R*, Rakesh Buddha, Nishank Baba Gajula **, Charan Kumar Reddy Neelapu****

*Assistant Professor, Electrical and Electronics Engineering, Nadimpalli Satyanarayana Raju Institute of Technology (Autonomous), Sontyam, Visakhapatnam, Andhra Pradesh, India
** UG Student, Electrical and Electronics Engineering, Nadimpalli Satyanarayana Raju Institute of Technology (Autonomous), Sontyam, Visakhapatnam, Andhra Pradesh, India
‡ Corresponding Author; R.Amaleswari, Assistant Professor, Nadimpalli Satyanarayana Raju Institute of Technology (Autonomous), Sontyam, Visakhapatnam, Andhra Pradesh, India
DOI: 10.47750/pnr.2022.13.S07.627

Abstract

Battery Management System plays a key role for most electric vehicles because the safety operation of an EV and even the life of the passenger depends on the battery system. The main function of the battery management system (BMS) is to check and control the status of batteries within their specified safe operating conditions. BMS helps to monitor and control the charge. Demand from each cell in the chain ensures even distribution of SOC. Battery pack testing monitors the status of each individual cell and its operation with the pack as a whole. It can help to detect the faults and weaknesses of a cell within the pack. SOC (State of Charge) and SOH (State of health) are important indicators in testing throughout charge/discharge cycles. This review presents various methods for accurate estimation of battery SOC for ensuring the SOC estimation accuracy and also to choose an appropriate method in developing a reliable and safe battery management system to ensure the protection of the battery.

Keywords- Battery Management system, Battery charging, State of chargeestimation, Fast charge, Slow charge.

1. Introduction

Electric vehicles (EVs) are playing a key role due to their zero-emission of harmful gases and use of efficient energy. Electric vehicles are equipped with a large number of battery cells which require an effective battery management system(BMS) while providing necessary power[32]. Batteries have been widely applied as the power supply for EVs and HEVs due to their advantages such as high energy density, low environmental pollution, and long cycle life. On the other hand, batteries require particular care in EV applications. Improper operations such as over-current, over-voltage, or over-charging/discharging will cause significant safety issues to the batteries and raise health issues to the batteries, noticeably accelerate the aging process, and even cause fire or explosion of the batteries[33]. A well-designed charging strategy will protect batteries against damage, limit temperature variations as well as improve the efficiency of energy conversion. Incorrect operations such as over-discharging, over-charging or improper charging will speed up the degradation process of the battery theoretically and cause long-term issues[02]. Compared with the other types of battery, the Li-ion battery has fairly stable performance but less cycle life at high-temperature conditions. According to accurate estimations of battery SOC, SOH, and temperature, proper battery charging proposals can be effectively designed, further to charge the battery from the initial state to

Original Article

A Review Study On The Torch Positions In Pulse Mig Welding Process

Ch.V.V.S.S.R. Krishna Murthy[1], M.Yogendra[2], B. Sankar Rao[3], K. Sai Teja[4], P VAYUNANDA SAI KUMAR[5], S. Talukder[6], Y. Rohith[7] D. Mohan[8]

Assistant Professor[1], Students of Mechanical Engineering[2, 3, 4, 5,6,7,8] Department of Mechanical,
N S Raju Institute of Technology, Affiliated to JNTUK, AP, INDIA
DOI: 10.47750/pnr.2022.13.S09.1066

Abstract

This study is compiled from the various results obtained from the researchers on torch positions in pulse MIG welding process. The torch position plays a prominent role in deciding the weld quality and bead geometry in pulse welding process. Improper torch inclinations lead to porosity issues, inconsistent weld bead formation, improper fusion of metals, large amounts of spatter. Most of the above problems can be solved by choosing an optimum torch angle in pulse MIG welding. Therefore, it is very important to study various effects of torch inclinations to use it for the practical applications. This review study investigates the various effects of torch inclinations in pulse MIG welding.

Metal Inert Gas (MIG),) Porosity, Bead geometry, Spatter, Torch inclination or angle.

I. INTRODUCTION

Metal inert gas welding (MIG) process is an arc welding process suitable for both thin and thick components. The different arc transfer modes in MIG welding are

- Short-circuit transfer
- Globular transfer
- Spray transfer
- Pulse-spray Transfer (Pulse-MIG welding)

Short-circuit transfer, globular and spray transfer modes can all be run on conventional MIG welding power sources with the same wire. The difference in modes depends on the shielding gas, voltage and amperage being used. Pulsed MIG welding requires a welding power source that specifically has pulsed capabilities.

While spray transfer continuously propels drops of molten metal across the arc, in pulsed-spray transfer, this stream is not continuous. The welding power source rapidly switches the welding output between high peak currents and low background current. The peak current pinches off a spray-transfer droplet and propels it toward the weldment for good fusion. The background current maintains the arc, but it is too low for metal transfer to occur. Because the weld pool gets to cool slightly during the background cycle, it allows for welding in all positions on thin or thick metals.

Advantages of Pulse MIG welding:

- Reduces Spatter.
- Less Heat input.
- Ease of use.
- Directional control over weld pool.

Experimental Analysis of Heat Transfer rate on Plain and Biphillic Surfaces using Condensation methods

Ch. V. V. S. S. R. Krishna Murthy[1], P. Prem Kumar[2], J. Leeladhar[3], K. Tarun Teja[4], K. Satish[5], M. Demudu Babu[6], K. Mohan Rao[7], M.V.M. Patrudu[8], N. Narendra Yadav[9], V. Durga Mahesh[10].

Assistant Professor[1,2], Students of Mechanical Engineering[3,4,5,6,7,8,9,10] Department of Mechanical, N S Raju Institute of Technology, Affiliated to JNTUK, AP, INDIA

Abstract

Condensation of vapour is needed in many of the Industrial applications like steam condensers, refrigeration etc. When vapour comes in contact with surface having temperature lower than saturation temperature, condensation occurs. When the condensate formed wets the surface, a film is formed over the surface and the condensation is called film wise condensation. When condensate does not wet the surface, drops are formed over the surface and condensation is called drop wise condensation. Surfaces with plain and low surface wettability lead to poor condensation process which means heat transfer rate and heat transfer coefficient is low. There are surfaces like Hydrophilic surfaces and hydrophobic pattern surfaces which help in increasing the heat transfer rate and heat transfer coefficient through material surface. By considering all the possible considerations we prepared a project which is used to find better surface for heat transfer through Biphilic surfaces by using condensation process.

Keywords*:* Condensation, Film Condensation, Plain Surface, Biphilic Surface, Teflon Coated Copper Tube, Teflon Coated Biphilic Copper Tube.

1. Introduction

Heat transfer is the study of the flow of heat. In chemical engineering, we have to know how to predict rates of heat transfer in a variety of process situations. For example, in mass transfer operations such as distillation, the overhead vapour has to be condensed to liquid product in a condenser, and the bottoms are boiled off into vapour in a reboiler. Often the feed stream is preheated using the bottoms product in a heat exchange. The three basic mechanisms of heat transfer. They are conduction, convection, and radiation. Conduction is an electronic/atomic mechanism of transferring energy from one place to another in solids, and a molecular mechanism of heat transfer in liquids and gases. Convection occurs when an element of fluid moves from one place to another, it brings its energy content with it, so that this is another mechanism for transferring energy from one place to another. Radiation heat transfer is ubiquitous, because all matter emits and absorbs electromagnetic radiation. The electromagnetic radiation spectrum is huge, but heat transfer is mostly concerned with a small part of it, called thermal radiation.

Original Article

A Review Study On The Bev (Battery Electric Vehicles)

D. VIVEK[1], MOHAMMAD BASHEER UDDIN[2], K. VENKATESH [3], G. RAKESH[4], T. PRUDHVI GUPTA[5], P. DILLESWAR RAO[6], K. RAM PRASAD[7] , P N E NAVEEN[8]

[1, 2,3,4,5,6]Students of Mechanical Engineering Department , N S Raju Institute of Technology, Affiliated to JNTUK, AP, INDIA

[7,8]Facultyof Mechanical Engineering Department, N S Raju Institute of Technology, Affiliated to JNTUK, AP, INDIA
DOI: 10.47750/pnr.2022.13.S09.1067

Abstract

Electric Vehicles (EVs) are gaining momentum because of numerous factors, consisting of the charge discount in addition to the weather and environmental awareness. This paper evaluations the advances of EVs concerning battery generation trends. More specifically, an evaluation of the global marketplace scenario of EVs and their destiny potentialities is carried out. Given that one of the essential elements in EVs is the battery, the paper provides an intensive assessment of the battery technology from the Lead-acid batteries to the Lithium-ion. Moreover, in addition to the strength manipulate and battery electricity control proposals. Finally, we finish our paintings via way of means of supplying our imaginative and prescient approximately what's predicted withinside the close to destiny inside this field, in addition to the studies elements which can be nonetheless open for each enterprise and educational communities.

INTRODUCTION:

The automobile enterprise has turn out to be one of the maximum essential world-huge industries, now no longer most effective at financial level, however additionally in phrases of studies and development. Increasingly, there are extra technological factors which are being added at the cars closer to the development of each passenger and pedestrians' safety. In addition, there's a more range of cars at the roads, which lets in for us to transport fast and comfortably. However, this has brought about a dramatic growth in air pollutants degrees in city environments (i.e., pollutants, including nitrogen oxides (NOX), CO, Sulphur dioxide (SO2), etc.). In addition, and in step with a file via way of means of the European Union, the delivery area is answerable for almost 28% of the overall carbon dioxide (CO2) emissions, at the same time as the street delivery is responsible for over 70% of the delivery area emissions.[1] Therefore, the government of maximum advanced international locations are encouraging the usage of Electric Vehicles (EVs) to keep away from the awareness of air pollutants, CO2, in addition to different greenhouse gases. More specifically, they sell sustainable and green mobility thru exceptional initiatives, in particular thru tax incentives, buy aids, or different unique measures, including unfastened public parking or the unfastened use of motorways. EVs provide the subsequent benefits over conventional cars.

• **Zero emissions:** This form of automobiles neither emit tailpipe pollutants, CO2, nor nitrogen dioxide (NO2). Also, the manufacture procedures have a tendency to be extra respectful with the environment, despite the fact that battery production adversely influences carbon footprint.

• **Simplicity:** The range of Electric Vehicle (EV) engine factors is smaller, which results in a far inexpensive maintenance. The engines are easier and extra compact, they do now no longer want a cooling circuit, and nor is vital for incorporating gearshift, clutch, or factors that lessen the engine noise.

Original Article

Beach Pollution: A Review

[1]G. Anil Kumar, [2] G. Jaya Krishna, [3] R. Arun Kumar, [4] M. Divakar,[5] P. Naveen, [6] B. Ganesh, [7] N. Pallavi Senapati, [8] P.N.E. Naveen[9]

[1,2,3,4,5,6,7]Student of Mechanical Engineering Department, N S Raju Institute of Technology (A), Visakhapatnam, AP, India-531173
[8,9]Faculty of Mechanical Engineering Department, N S Raju Institute of Technology (A), Visakhapatnam, AP, India-531173
DOI: 10.47750/pnr.2022.13.S09.1175

Abstract

Ooutcome of this mammoth problem is the rising socio-economic cost of poor water quality. Almost 40 million litres of wastewater enters rivers and other water biodiversity day with a very small fraction of it being adequately treated. Due to the polluted stretches in India the agricultural revenues decreases to 9% and also a 16% fall in agricultural yields downstream areas. Some remedial measures should be adopted to protect the poor masses of the country. Water pollution near oceans, rivers, lakes should be considered. It is the dire need of the hour to control water pollution to achieve the vision of the' healthy nation trolled. Other types of oceanic pollution such as oil spills and radioactive and industrial waste, pollution due to festivals are just as costly and can contaminate the oceans for thousands of years to come. . If we humans do not curtail our way of living as a token of respect towards oceans, the damage will be irreversible thus causing permanent damages to the environment.

Keywords: marine pollution, plastic debris, oil spills, factory outlets.

1.INTRODUCTION

Together with communities, private and public sectors, NGOs, and artists groups, One Drop's projects will soon have improved the living conditions of more than 2.7 million people worldwide. Water has the power to transform people's lives, by reducing health risks in their living conditions, and by broadening economic opportunities for vulnerable communities.

January 25, 2018 - Mr. Douglas Woodring, Founder and Managing Director of Ocean Recovery Alliance, has been awarded 2018 Prince's Prize for Innovative Philanthropy by H.S.H. Prince Albert II of Monaco. The winner of the 2019 award was given to Mr. Paul Polman for his instrumental work as CEO of Unilever and the significant engagement he created in their quest for sustainability.

Ocean Recovery Alliance focuses on bringing together new ways of thinking, technologies, creativity, collaboration, and initiatives to help improve the ocean environment.

have built up in water to the extent of causing problems to people, animals and Water pollution is the contamination of water in water bodies such as rivers, oceans, lakes and swamps. This means that one or more substances plants.

1.1 Community waste water: include discharges from houses, commercial and industrial establishments connected to public sewerage system. The sewage contains human and animal excreta, food residues, cleaning agents, detergents and other wastes.

1.2 Industrial Wastes: The industries discharge several inorganic and organic pollutants, which may prove highly toxic living beings.

1.3 Agricultural sources.

Original Article

Design And Analysis Of Cold Plate For Satelite Applications

Nakka Suneel Kumar[1], Koilada Abhinash[2] P N E Naveen[3]

[1,2,3]Faculty of Mechanical Engineering Department, Nadimpalli Satyanarayana Raju Institute of Technology (Autonomous), Visakhapatnam, Andhra Pradesh, India – 531173
DOI: 10.47750/pnr.2022.13.S09.1065

Abstract

This project aims understanding the cooling and effective thermal design methodology for electric equipment and applying these concepts to a real problem. The objective thermal design is to extract heat generated from the electronic equipment, to uncover potential risk areas for the System and to maintain the desired temperature levels. Effective thermal design is a blend of theoretical and simulation techniques aiming at optimized cooling solution for the component. The initial stage, design using theoretical design principle and then checking the accuracy with simulation techniques available. Detailed analysis will provide better degree of accuracy and in turn risk will be reduced systematically. A cold plate is considered as the cooling solution of a constant heat flux producing electronic system and the complete cooling system design is presented. Finally, the design is evaluated to check whether the electronic components are working under the safe conditions or not. This study predicts thermal performance of cold plate by theoretical and numerical approaches.

Keywords: Liquid Cooling, Cold Plates, Temperature, Heat Transfer, Electronic Applications.

1. Introduction:

In the past, the thermal designer's role was seen as one of predicting temperatures and ensuring that reliability limits are met for products. The packaging and thermal management of electronic equipment has become pivotal because of increased power levels and the simultaneous miniaturization of the devices. The ultimate goal of system thermal design is not the prediction of component temperature, but rather the reduction of thermally associated risk to the product. Heat is generated by the flow of electrical current in electronic component, these electronics components are observed to fail under prolonged use at high temperatures. Possible causes of failure are diffusion in semiconductor material, chemical reaction, and creep in bonding material. The failure rate of electronics device increases almost exponentially with operating temperature. Therefore, for safe working of electronic components the generated heat should be removed by using cooling methods [1].

The manufacturer of electronic devices specifies the rate of heat dissipation and maximum allowable component temperature for reliable operation. For low-cost electronic equipment, inexpensive cooling mechanism such as natural or forced convection with air as cooling medium is commonly used. for high performance electronic equipment, it is often necessary to resort to expensive and complicated cooling techniques such as liquid cooling systems. Design of a liquid-cooling system requires sizing of individual components so that the desired flow is delivered to the cold plates and type of cooling liquid, method of manufacturing, cost effective solution. The individual cold plates and heat sinks also need to be designed so as to achieve effective and uniform cooling over the entire surface. Both distributed flow cold plate and tubed flow cold plate are selected to compare the results between them. The studies on the performance and design of the cooling system are very limited in open literature. Most analyses have been executed by using A two-dimensional method without considering the variation of heat flux [2].

Selection of cold plate material:

Original Article

REVIEW ON CONFIGURATION OF POWER SPLIT HYBRID ELECTRIC VEHICLES

S. Manoj Kumar[1], D. Praneeth vardhan[2], G. Bhaskar[3], Devi Siva rasad[4], Atchuth[5], Roshan[6], G. Siva Sai ram[7]

[1,2,3,4,5,6]Students of Mechanical Engineering Department, N S Raju Institute of Technology, Affiliated to JNTUK, AP, INDIA

[7]Faculty of Mechanical Engineering Department, N S Raju Institute of Technology, Affiliated to JNTUK, AP, INDIA

DOI: 10.47750/pnr.2023.14.03.209

Abstract

The hybrid powertrain is one of the most important technologies that have been developed to satisfy the challenging of fuel economy and emission standards. As is well known, a suitable configuration should not only meet the requirements of vehicle kinematics and dynamics, but also meet the requirement of fuel economy and emission. paper reviews the advances of EVs regarding battery technology trends. More specifically, an analysis of the worldwide market situation of EVs and their future prospects is carried out. In this paper, the hybrid powertrain system is regarded as a system with multiple power sources. Moreover, as well as the power control and battery energy management proposals

INTRODUCTION

The automotive industry has become one of the most important world-wide industries, not only at economic level, but also in terms of research and development. With the increase of environmental and economic interests, improving fuel economy of vehicles has becomes an important topic in recent years.

Increasingly, there are more technological elements that are being introduced on the vehicles towards the improvement of both passengers and pedestrians' safety. As well known, a hybrid electric vehicle adds an additional power source (e.g., battery, etc.) and one or multiple actuators (electric machines) to the conventional power-train. The additional power devices help to improve system efficiency and fuel economy by engine right-sizing, load leveling, regenerative braking and pure electric mode

In general, hybrid electric vehicles can be crudely divided into three types: parallel, series and split. Among all three types, the power-split type has dominant market share [1].

This is mainly because the engine in the power-split HV is decoupled from the vehicle speeds and can operate efficiently while much of the power flows in the mechanical path. The study of possible HEV configurations is of interest both industry and academia. For example, Ford and Nissan are licensing the THS technology from Toyota while Chrysler and BMW are licensing the GM dual-mode technology

Hybrid electric vehicle have different configurations with different numbers of operating modes; for example, the Prius has no clutch and has a single operating mode, whereas the Chevy Volt uses three clutches and has four modes. It should be noted that the multiple operating modes can be achieved when clutches are augmented to a power-split configuration [4]

With the introduction of clutches, the complexity of hybrid powertrains becomes unprecedented. The high system complexity provides more freedom for achieving better fuel economy, performance, cost, and comfort [5].

Degree of freedom

The transmission of hybrid electric vehicle is a multi-input and multi-output system and can be considered to be a system including inputs, outputs and a function of transmit, so it may be analyzed by means of block diagrams as shown in Fig.1.

WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Design and Fabrication of Multipurpose Rugged Cutting Machine for Agriculture

[1]S. Lokesh, [2]M. Gowtham Sai, [3]Nasrat Bhanu, [4]P. Charan Teja, [5]B. Sankara Rao, [6]D. Paresh, [7]A. Manoj Kumar, [8]D.H.V. Manish Reddy, [9]V. V. S. S. R. Krishna Murthy. Ch

[1,2,3,4,5,6,7,8]U. G Scholars, Dept. of Mechanical Engineering, N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India

[9]Assistant Professor, Dept. of Mechanical Engineering, N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India

ABSTRACT:

As agriculture is one of the main occupations in India, it is very essential to discover and implement new ideas in this field, although a lot of work has been done in this area. It is a pity that these ideas are not properly implemented in the real field. This is due to the high cost and difficult for the rural population. Multi-purpose agricultural cutting equipment is the basic and main equipment involved in agriculture for maximum performance. The conventional method of planting and growing crops is a laborious process, and therefore there is a shortage of manpower, resulting in a delay in agriculture to overcome these difficulties. Multi-purpose agricultural equipment is designed. Agriculture plays a vital role in the Indian economy. Over 70% of rural households depend on agriculture. Agriculture is an important sector of the Indian economy, contributing approximately 8.4% to the total GDP and providing employment for over 60% of the population. Indian agriculture has experienced impressive growth over the past few decades.

KEYWORDS — Agriculture, cutting equipment

1. INTRODUCTION

Agriculture is one of the most significant sectors of the Indian Economy. Agriculture is the only means of living for almost two thirds of the workers in India. The agriculture sector of India has occupied 43% of India's geographical area, and is contributing 16.1% of India's GDP. In India agriculture has been facing serious challenges like scarcity of agricultural labour, not only in peak working seasons but also in normal time. This is mainly for increased non-farm job opportunities having higher wage, migration of labour force to cities and low status of agricultural labours in the society. On the other hand cultivable land is decreasing due to urbanization. Agricultural mechanization is one way to overcome this problem. Fortunately, there are many opportunities to move forward with agricultural mechanize

1.1 Sugarcane

India is one of the largest sugarcane producers in the world, producing around 300 million tons of cane per annum. For plantation of sugarcane, the sugarcane seed has to be planted in wet soil. This sugarcane seed is nothing but part of sugarcane. Sugarcane has approximately 15-18 seeds. In traditional way farmers use to cut whole sugarcane in 5-6 parts, in such a way that each part having 2-3 seeds. Then those cut parts are planted in soil. About 4 million sugarcane farmers and a large number of agricultural labours are involved in sugarcane cultivation and auxiliary activities, constituting 7.5% of the rural labour force.

1.2 Straw

Straw is remaining part of Jowar and Maize plant, after removal of corn part. Farmer use to cut this straw and use this cut parts as a food for pet animals like buffalos, cows, ox and goat etc. Initially this straw is of around 150-200 cm. And this should be cut into small pieces.

1.3 Groundnut

Groundnut is one of the important agriculture products in India. Farmer use to separate groundnuts from its plants by manually. This require more man power as 20-30 labours per acre, and also this is time consuming operation. A single groundnut plant contains 20 to 30 groundnuts.

Specification groundnut on average basis as below,

Length of groundnut root = 30 mm

Length of groundnut = 20 mm

WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Design and Analysis of Turbo Jet Engine

[1]M. Sudheer, [2]P. Shyam, [3]S. Jaswanth, [4]U. Pavan Kumar, [5]V. V. S. S. R. Krishna Murthy

[1,2,3,4] U. G Scholars, Dept. of Mechanical Engineering, N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India

[5]Assistant Professor, Dept. of Mechanical Engineering, N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India

ABSTRACT

This project aims to design a turbojet engine using Catia software. The design was based on the research conducted by industry experts and researchers throughout the history of jet engines. The design methods were carefully selected to simplify the engine design process. The objective of the project was to create a functional turbojet engine. Air travel has become more accessible in today's world, allowing people to travel to any part of the world in a short amount of time. However, the aviation industry was not as advanced in the past, using Rotary Piston IC engines that had limited travel speed and distance, high fuel consumption, and increased transport costs. The development of turbojet engines, which are Rotary-Reaction Turbine Engines, was a significant breakthrough in the aviation industry. Compared to Rotary piston engines, turbojet engines are more efficient, and other engines such as turbofan, turboprop, and turbo shaft engines were developed as improvements over the turbojet engine.

Keywords: Turbo jet engine, Modelling, Analysis, probabilistic technique, simulation.

1. Introduction

Jet engines are widely used in various applications, including aviation and energy production. The design and construction of a jet engine require knowledge from multiple fields, including thermodynamics, fluid mechanics, and mechanical engineering. To build a modern jet engine, experienced professionals from all these fields are necessary. A modern jet engine is an engineering marvel, with features such as fine tolerances in space, resilience to high temperatures and stress. Over the years, the jet engine has undergone significant improvements in performance, efficiency, and reliability. The most commonly known jet engines are the turbojet engine, turboprop engine, turbofan engine, turboshaft engine, and ramjet engine. The basic principles underlying these engines are the same, and they operate according to similar concepts as the internal combustion engine: suck, squeeze, bang, and blow. The first part focuses on the inlet, where air is sucked in. The second part involves compressing the air to a higher pressure. The third part is the combustion chamber, where the compressed air is mixed with fuel a1206nd ignited to create high-velocity exhaust gases. The fourth part focuses on the outlet of the engine, where the exhaust gases exit the engine.

The history of the turbofan engine should be included in the beginning of the thesis, which dates back to the Wright Brothers and their aircraft. The Wright Brothers designed, built, and flew "The Flyer" in Carolina, which marked the beginning of powered flight. The 12-hp reciprocating intermittent combustion engine gave life to The Flyer, and until the late 1930s, this type of engine was used in all manned aircraft. The history of aircraft gas engines started in January 1930 with Frank Whittle's development of the turbojet engine based on the Brayton cycle. In 1936, a new turbojet engine was developed by von Ohain in Germany, which was the first engine to fly. In modern times, the development of gas turbine engines is still ongoing. The early turbojets were used as propulsion systems for high-speed fighter and reconnaissance aircraft. The turbojet was more suitable for these applications than traditional propeller engines, but fuel economy, reliability, and endurance were not characteristics of the turbojet. The first developments were about pressure ratios. By the early 1950s, the turbojets achieved a 10:1 pressure ratio, and by the 2000s, it had reached 40:1. The U.S. Air Force requested an engine capable of long-range subsonic speed operation, leading to the development of more efficient engines from the turbojet. The TF39 was the first turbofan engine made by General Electric under the leadership of Gerhard Neumann in 1965 for the Lockheed C5A.

The basic principle used in jet engines can be traced back to 150 BC, where the principle was used in the Aeolipile, a simple construction that uses a radial steam turbine. The steam exits through a nozzle, creating a spinning motion of a ball, according to Newton's third law. In 1791, John Barber filed a patent utilizing the same thermodynamic cycle as a jet engine, and the interest continued throughout the 1800s. However, it wasn't until Sir Frank Whittle of the Royal Air Force in the 1930s made the first patent for the jet engine and showed the possibilities through reliable energy conversion. He conducted the first static test in 1937. Two years later, in 1939, a German physicist named Hans von Ohain made the first jet-powered flight and demonstrated the possibilities of jet engines. The idea came about to improve the propeller-driven aircraft of the time, where the main problem was the speed of the aircraft. The aircraft of the time were closing in on the speed of sound, and sometimes getting too close, which would result in shockwaves being created, causing the propeller to shatter.

International Journal of Research in Engineering and Science (IJRES)
ISSN (Online): 2320-9364, ISSN (Print): 2320-9356
www.ijres.org Volume 11 Issue 4 ǁ April 2023 ǁ PP. 231-235

Design and Fabrication of Real Time Voice Operated Wheelchair cum Bed

R. Revathi Nandu Kumar[1], Y. Venkata Sai[2], M. Jayaram[3], S. Venkatesh[4], D. Vamsi[5], G. Vamsi[6], K. Yuvaraj[7], B. Bharani sai[8], K. Ram Prasad[9]

[1,2,3,4,5,6,7,8] *Students of Mechanical Engineering, Department of Mechanical, N S Raju Institute of Technology, affiliated to JNTUK, AP, India*

[9] *Assistant Professor, Department of Mechanical, N S Raju Institute of Technology, affiliated to JNTUK, AP, India*

ABSTRACT

This project opens a new hope to the physically challenged people. Freedom of mobility is the dream for every patient especially in the case of people suffering from cases such as quadriplegics and multiple sclerosis. Although many types of mobility equipment are available for these type of patient there is no independent means of mobility device for these patients since they cannot drive a joystick or manual wheelchair. In order to aid these types of patients we are developing voice operated wheelchair cum bed. The movement of the wheelchair cum bed is controlled by the voice of the user through Android phone. This wheelchair can be driven to the preferred direction with minimum effort. The user requires only less training to use this wheelchair. Technically this wheelchair is integrated with a voice recognition module to identify the voice, a microcontroller which can be programmed other supporting hardware components and a motor driver L293D.The proposed microcontroller-based voice operated wheelchair cum bed would bring more convenience for the disabled people.

Keywords: *Smart wheelchair cum bed, Arduino UNO, Bluetooth module HC-05, Android phone, Motor driver, Disabled and elderly people.*

Date of Submission: 01-04-2023 Date of acceptance: 12-04-2023

I. INTRODUCTION

The need for automatic Wheelchair is especially present in care of immovable people (people with persistent vegetative state, paraplegia, stroke and spinal cord injuries), where the care requires a lot of time and manpower. This report is the result of a design and development of an automated multifunctional Wheelchair that would perform all functions present in today's Wheelchair (Wheelchair with adjustable portion of back rest and leg rest and also convert to bed to wheelchair and vice versa and also remote control with which we can provide all necessary movement) as well as new functions of appropriate Wheelchair sections (leg positions adjusting). It is expected that this new automatic Wheelchair would enable people's better medical care, and would greatly reduce time and manpower to the old-age home staff.

Health monitoring is essential to our daily lives. The use of various specialized sensors in hospitals has increased recently because of efforts to enhance patient outcomes and overall construction efficiency. Modern hospital beds serve more purposes than simply providing sleeping space for patients. To make the people who are bed ridden more comfortable and at ease. The voice-controlled wheelchair convertible bed that can be operated via voice commands is described in the proposed system along with its design and prototype development. The bed has unique characteristics that set it apart from other beds. Moreover, the bed may be transformed into a chair position using voice instructions. Therefore, this study proposes a wheelchair that may be operated by the user's simple vocal instructions and discusses the design and development of a voice controlled automatic wheelchair. What will happen if wheelchair starts moving with audio input like forward, backward, left and right? The disabled person can move anywhere he wants without the help of second person and independently. There will be no need to use hands for moving the wheelchair. We are trying to implement this concept through our project "Smart wheelchair".

The name itself indicates the meaning the wheelchair which is intelligent. This wheelchair takes commands from user and according to that it moves in required direction. The person who is unable to move chair by hands can move this wheelchair just by giving the commands. This is the boon for paralyzed people. Hence using this chair, the patient can go anywhere independently. This is economical and fully automated. Hence physically disabled people can use this wheelchair easily and live their life happily.

WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Design and Fabrication of Die Using CNC-Milling Machine

[1]B. Jagadesh Sai Kumar, [2]K. Chandra Kiran, [3]B. Swaroop, [4]D. Charan ,[5]K. Jayanth, [6]B. Sai Dileep, [7]G. Ravi Teja, [8]K. Praneeth, [9]K.Ram Prasad, [10]P.N. E. Naveen

[1,2,3,4,5,6,7,8]U. G Scholars Dept. of Mechanical Engineering, N.S. Raju Institution of Technology, Sontyam, Visakhapatnam, A. P, India
[9,10]Associate Professors, Dept. Of Mechanical Engineering, N.S. Raju Institution of Technology, Sontyam, Visakhapatnam, A.P, India

ABSTRACT

Injection molding is considered to be one of the most prominent process for mass production of plastic products the object molded can be depend on the selection of proper mold and behavior of polymeric material in injection moulding process .The injection molding machine melts and plasticize the moulding material inside the heating cylinders and inject this into the mould to create the product . In this project the stool leg bush dye is designed and modeled for the required dimensions by using AUTO CAD NX Software .By using CNC milling simulator ,the dye simulation work is done using NC Program .The dye is manufactured by CNC milling machine .The stool leg bush is manufactured by injection moulding .This project presents a step by step guide on the use of reverse engineering in designing and manufacturing a dye for plastic injection moulding of a keychain.

KEYWORDS : Injection Moulding ,Polumeric Material ,AUTOCAD NX Software ,Stool Leg Bush ,Reverse Engineering.

INTRODUCTION

INJECTION MOULDING

The injection machine is a machine that melts plasticize the molding material inside the heating cylinder and inject this into the mold tool to create the molded product by solidifying inside it. The injection machine is constructed of a mold clamping device that plasticize and inject the molding material. There are several types in the injection machine, and the difference is made by how these devices are arranged , but time and look for the injection time when the weight of molded became a certain amount and stop changing.

Figure 1: Injection Moulding

WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Fabrication and Experimental Investigation of Compressed Air Engine

Pittala Sai Radha Krishna[1], D. Naveen Kumar[2], G. Dinesh[3], G. Uday Kiran[4], K. Sai Sumanth[5], K. Varun Kumar[6], K. Vamsi Krishna[7] A. Durga Dalinaidu[8], J. Lakshman[9]

[1]Department of Mechanical Engineering, N.S. Raju Institute of Technology(A), Visakhapatnam, Andhra Pradesh, India
[2]Department of Mechanical Engineering, N.S. Raju Institute of Technology(A), Visakhapatnam, Andhra Pradesh, India
[3]Department of Mechanical Engineering, N.S. Raju Institute of Technology(A), Visakhapatnam, Andhra Pradesh, India
[4]Department of Mechanical Engineering, N.S. Raju Institute of Technology(A), Visakhapatnam, Andhra Pradesh, India
[5]Department of Mechanical Engineering, N.S. Raju Institute of Technology(A), Visakhapatnam, Andhra Pradesh, India
[6]Department of Mechanical Engineering, N.S. Raju Institute of Technology(A), Visakhapatnam, Andhra Pradesh, India
[7]Department of Mechanical Engineering, N.S. Raju Institute of Technology(A), Visakhapatnam, Andhra Pradesh, India
[8]Department of Mechanical Engineering, N.S. Raju Institute of Technology(A), Visakhapatnam, Andhra Pradesh, India
[9]Department of Mechanical Engineering, N.S. Raju Institute of Technology(A), Visakhapatnam, Andhra Pradesh, India

ABSTRACT—

This study presents an experimental investigation of a piston engine driven by compressed air. The compressed air engine was a modified 100 cm^3 internal combustion engine obtained from a motorcycle manufacturer. The experiments in this study used a test bench to examine the power performance and pressure/temperature variations of the compressed air engine at pressures ranging from 5 to 9 bar (absolute pressure). The engine was modified from a 4-stroke to a 2- stroke engine using a cam system driven by a crankshaft and the intake and exhaust valves have a small lift due to this modification. Similar situations occurred during the exhaust process, restricting the power output of the compressed air engine. The pressure and temperature variation of the air at engine inlet and outlet were recorded during the experiment. The outlet pressure increased from 1.5 bar at 500 rpm to 2.25 bar at 2000 rpm, showing the potential of recycling the compressed air energy by attaching additional cylinders (split-cycle engine). A temperature decrease (from room temperature to 17 °C) inside the cylinder was observed. It should be noted that pressures higher than that currently employed can result in lower temperatures and this can cause poor lubrication and sealing issues. The current design of a compressed air engine, which uses a conventional cam mechanism for intake and exhaust, has limited lift movement during operation, and has a restricted flow rate and power output. Fast valve actuation and a large lift are essential for improving the performance of the current compressed air engine. This study presents a power output examination with the pressure and temperature measurements of a piston type compressed air engine to be installed in compact vehicles as the main or auxiliary power system.

Keywords: Compressed Air Engine, Power Performance, Indicated Power, Brake Power, Mechanical efficiency.

I. INTRODUCTION

In the past few decades, energy conservation and carbon reduction have become very crucial issues worldwide. Scientists have been searching for solutions to reduce the extensive use of conventional internal combustion (IC) engines and/or reduce their carbon dioxide emissions. To find a replacement for conventional IC engines, researchers have studied several types of engines that use green energy to determine the feasibilities of installing these engines in motor vehicles. Examples include electric engines, natural gas engines, and hydrogen engines. Electric vehicles are the most common green energy alternative and have been developed and commercialized for decades. However, slow battery recharging and a heavy battery weight are critical issues for electric vehicles. Hydrogen engines and natural gas engines can be used in motor vehicles; however, the required tank size limits their applications. In recent years, high-pressure compressed air has been considered a green energy source for its advantage of zero carbon emissions and potential applications as a main or auxiliary power system in motor vehicles. The Air Driven Engine is a low-emission engine that runs on compressed air. In Air Driven Engine, the expansion of compressed air drives the pistons of an engine. An Air Driven Engine is a pneumatic actuator that expands compressed air to produce useful work. Because there is no combustion, there is no mixing of fuel and air. Adder, J. [1] in the past few decades, energy conservation and carbon reduction have become very crucial issues worldwide. Scientists have been searching for solutions to reduce the extensive use of conventional internal combustion (IC) engines and/or reduce their carbon dioxide emissions. To find a replacement for conventional IC engines, researchers have studied several types of engines that use green energy to determine the feasibilities of installing these engines in motor vehicles. Examples include electric engines, natural gas engines, and hydrogen engines. Papson, A.; Creutzig, F.; Schipper, L. [2] Electric vehicles are the most common green energy alternatives and have been developed and commercialized for decades. However, slow battery recharging and a heavy battery weight are critical issues for electric vehicles. Hydrogen engines and natural gas engines can be used in motor vehicles; however, the required tank size limits their applications. In recent years, high-pressure compressed air has been considered a green energy source for its advantage of zero carbon emissions and potential applications as a main or auxiliary power system in motor vehicles. Schechter, M [3] describes new thermodynamic cycles and associated vehicle

WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Design and Fabrication of Agricultural Smart Seeding and Spraying Robot

[1]Ch.Karthik, [2]D. Sai Ganesh, [3]G. Anil, [4]K. Ganesh, [5]V. Tarun,[6]M. Vykunteswara Rao, [7]P. Mahalaxmi Naidu., [8]P. Nagaraju, [9]K. Abhinash.

[1,2,3,4,5,6,7,8]U. G Scholars, Dept. of Mechanical Engineering, N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India.
[9]Assitant Professor, Dept. of Mechanical Engineering, N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India.

ABSTRACT:

More than 60 percent of the population in India do agriculture as the primary sector occupation. At present, due to increase in shortage of labour, interest has raised for the development of the autonomous vehicles like robots in the agriculture field. A robot called "Design and Fabrication of Agricultural Smart Seeding and Spraying Robot" has been designed to minimize the labour of farmers in addition to increasing the speed and accuracy of the work. The Proposed system is designed with the multipurpose autonomous agricultural robotic vehicle which can be controlled through WIFI, for seeding and spraying water on soil is dependent on the height of the plants but not in free space, sow the seed in desired depth and provide required spacing between the seeds, detection of blockage of a seed. The project was tested on the field. The robot is successfully able to move in all the directions. And sensor position adjustment for monitoring temperature and moisture content in the soil are updated to WIFI Robot App continuously. In seed sowing unit the user is capable of measuring the volume of the seeds in all the bins and also selecting size of the seeds for sowing. The seed sowing is capable to sow the seeds to the desired depth of 4 cm for the seeds whose diameter is greater than 4mm with the spacing of 5 inches and a desired depth of 5 cm for the seeds whose diameter is less then 6mm with the spacing of 6 inches between the seeds. Pesticide spraying unit is capable of spraying pesticide only on the plant not in the free space with the maximum height of 4 feet.

KEYWORDS — Agricultural smart and seeding, Spraying, Arduino Uno, WIFI Control.

1. INTRODUCTION

A. SEEDING

The major occupation of the Indian rural people is agriculture and both men and women are equally involved in the process. Agriculture has been the backbone of the Indian economy and it will continue to remain so for a long time. It has to support almost 17%of world population from 2.3% of world geographical area and 4.2% of world water resources. The Seed Planter was an invention thought out in 1699. It was later built and used. He started off in law school and then later in his life studied agriculture. Jethro inherited land in Europe where he practiced his agricultural study. His seed planter successfully planted seeds in uniform although this was improved in 1782, Jethro Tull still takes credit for his extremely helpful invention. The present cropping intensity of 137% has registered an increase of only 26% since1950-51. The net sown area is 142 Mha. The basic objective of sowing operation is to put the seed and fertilizer in rows at desired depth and spacing, cover the seeds with soil and provide proper compaction over the seed. A traditional method of seed sowing has many disadvantages. Different types of methods of seed sowing and fertilizer placemen tin the soil and developing a multifunctional seed sowing machine which can performs instantaneous operations. In order to save the farmers effort and his valuable time, it is important to develop the method which not only saves the time but also saves his efforts. Farmers face the problem of nonavailability of bullocks as well as tractors during the peak period of sowing. Hence, they are tempted to hire them at an increased cost. By making use of

automatic operated seed planter is that - it can be easily driven by a single person as well as it can be driven manually. Currently maximum process is done manually which is too much time consuming and require more manpower for large farm areas and the automatic machines available they having too much cost. For reducing manpower, safety and most importantly cost in working automatic seed planter following practices are adopted Simplicity of process. Reduce human efforts. Eliminate steps. Improved accuracy.

B. SPRAYING

Agriculture plays an essential position in the Indian financial system. For the rural population, agriculture is a vocation for their livelihood. All farmers use pesticides, including organic farmers. Whether from artificial or natural sources, insecticides are utilized by all farmers. The difference is organic farmers can best use insecticides from natural resources. But both synthetic and herbal insecticides have various stages of toxicity. Today solutions hugely rely upon heavy chemicals. A pesticide is a substance utilized for controlling, obviating, and ravaging pests. But when farmers spray the pest, it's far a

e-ISSN: 2582-5208
International Research Journal of Modernization in Engineering Technology and Science
(Peer-Reviewed, Open Access, Fully Refereed International Journal)
Volume:05/Issue:04/April-2023 Impact Factor- 7.868 www.irjmets.com

FABRICATION OF ABRASIVE JET MACHINE

A.Ganesh*[1],D.Chaitanya*[2],G.Srinivas*[3],A.Srinivas*[4]S.Bharath kumar*[5],M.Manoj kumar*[6],K.Trinath*[7],S.Tharun kumar*[8], ,T.T.V.S.R.Krishna Kumar*[9],P.N.E.Naveen*[10]

*1,2,3,4,5,6,7,8U.G Scholars, Dept. of Mechanical Engineering, N S Raju institute of Technology, Sontyam , Visakhapatnam, Andhra Pradesh, India

*9,10Associate professor, Dept. of Mechanical Engineering, N S Raju institute of Technology, Sontyam, Visakhapatnam, Andhra Pradesh, India.

DOI : https://www.doi.org/10.56726/IRJMETS35574

ABSTRACT

AJM has become a very useful method for micro machining. It has enormous number of distinct advantages over the other non-traditional cutting and drilling methods, that include high machining versatility and minimum stresses on the substrate. This abrasive jet machining project is used for drilling holes on brittle materials like glass. Holes can be created in brittle material and glass with the usage compressed air and abrasive particles. A compressor used is connected through high pressure pipe to the control valve. Control valve controls the air through pipes to the nozzle. A pressure gauge is attached to measure the pressure through the pipes. Pressure relief valve is also used which is attached between control valve and nozzle which performs the cleaning of air that passes to the mixing chamber. Mixing chamber is used mix clean air with the abrasive particle at a high pressure. The abrasive particle can be introduced from the upper inlet of the mixing chamber. A nozzle is connected to the end of the mixing chamber where discharge takes place. Nozzle has the function of increasing the velocity of high pressurized discharged air that is mixed with the abrasive particle. This discharged air is impacted on the material which is held by the vice. Thus, the desired hole is obtained. For increasing the metal removal rate we are trying to decrease the size of the nozzle by regulating the pressure with respect to the material.

KEYWORDS: Micro machining, compressed air, abrasive particles, pressure gauge, control valves, mixing chamber .

I. INTRODUCTION

ABRASIVE JET MACHINING PRINCIPLE

Abrasive Jet Machining (AJM) is the removal of material from a work piece by the application of a high speed stream of abrasive particles carried in gas medium from a nozzle. The AJM process is different from conventional sand blasting by the way that the abrasive is much finer and the process parameters and cutting action are both carefully regulated. The process is used chiefly to cut intricate shapes in hard and brittle materials which are sensitive to heat and have a tendency to chip easily. The process is also used for drilling, de-burring and cleaning operations. AJM is fundamentally free from chatter and vibration problems due to absence of physical tool. The cutting action is cool because the carrier gas itself serves as a coolant and takes away the heat.

EQUIPMENT

The main components being the compressor, air filter regulator, mixing chamber, nozzle and its holder, work holding devices and X-Y table. Air from the atmosphere is compressed by the compressor and is delivered to the mixing chamber vie the filter and regulator. The mixing chamber contains the abrasive powders and is made to vibrate by an electric motor and cam arrangement. Then the abrasive particles are passed into a connecting hose leading to the nozzle. This abrasive and gas mixture emerges from the orifice of nozzle at high velocity. The feed rate of abrasive air is controlled by the amplitude of vibration of the mixing chamber. A pressure regulator installed in the system controls the gas flow and pressure. The nozzle is mounted on a plate which is screwed to the frame. The work piece is moved by moving the x-y table to control the size and shape of the cut. Dust removal equipment is necessary to protect the environment

IoT BASED TYRE PRESSURE MANAGEMENT SYSTEM

[1]P. VAMSHI, [2]T.SAI SANDEEP, [3]S. BHASKAR RAO, [4]P. HARISH, [5]M. MOHIT, [6]L. BHARGAV, [7]M.S. DANUSH KUMAR, [8]L. GOPINADHAM, [9]B. USHA RANI, [10]P.N.E. NAVEEN

[1,2,3,4,5,6,7,8]U. G Scholars, Dept. of Mechanical Engineering, N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India

[10,9]Associate Professors, Dept. of Mechanical Engineering, N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India

ABSTRACT : ***The constant improvement of vehicle safety and lifespan has led to the development of tire monitoring and self-inflating systems. Maintaining proper tire pressure and temperature is crucial for vehicle safety and performance. A drop in tire pressure can result in reduced gas mileage, tire life, safety, and overall vehicle performance. To address this issue, we propose an automatic tire monitoring system utilizing the BMP180 sensor as an air pressure and temperature device, which communicates with the Arduino Uno microcontroller distributed by the Node MCU with a Wi-Fi module. The Blynk application displays real-time data on a smartphone using IoT technology. Our system aims to improve gas mileage, reduce tire wear, and increase tire handling and performance in various conditions. The system addresses the growing concern of environmental issues and the recent oil price hikes by promoting fuel efficiency. The proposed system is an innovative solution to address the shortcomings of traditional tire pressure monitoring methods, and the IoT-based system allows for remote monitoring and real-time data collection. Overall, our system aims to provide a reliable and efficient way of maintaining optimal tire pressure and temperature for safe and improved vehicle performance.***

KEYWORDS — air pressure, Arduino Uno, Blynk, temperature, TPMS.

1.INTRODUCTION

The Internet of Things (IoT) has revolutionized the way we interact with technology, and it has also had a significant impact on the automotive industry. One area where IoT technology has had a particular impact is in the development of tire pressure monitoring systems. These systems use sensors to monitor the pressure of each tire in real-time, providing drivers with critical information about their vehicle's safety and performance. An IoT-based tire pressure monitoring system is designed to be highly efficient and accurate, providing drivers with real-time data on the condition of their tires. The system uses sensors that are installed in each tire to measure the air pressure and temperature of the tire. The data collected by the sensors is then transmitted wirelessly to a central hub, which can be accessed by the driver through a mobile app or dashboard display.

The benefits of an IoT-based tire pressure monitoring system are significant. Proper tire pressure is essential for safe driving, and a system that provides real-time data can help drivers stay informed and make the necessary adjustments quickly. The system can also improve fuel efficiency, extend the life of tires, and reduce the risk of accidents caused by tire failure. In summary, an IoT-based tire pressure monitoring system is a game-changer for the automotive industry. By providing real-time data on tire pressure and temperature, the system can significantly improve vehicle safety, performance, and efficiency. With the continued growth of IoT technology, we can expect to see further innovations in this field in the years to come.

2.LITERATURE REVIEW

Literature review was carried out throughout whole project to gain knowledge and skills needed to make this project. .[1] The review suggests that a tyre pressure

WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Design and Fabrication of Beach Cleaning Vehicle

[1]B. Sai Charan, [2]K. Vijaya Kumar, [3]B. Nitish Kumar, [4]B. Pavan, [5]B. Vikas, [6]D. Harsha Vardhan, 7G. Manikanta,[8]G. Anil Kumar, [9]G. Siva Sai Ram, [10]P.N.E. Naveen

[1,2,3,4,5,6,7,8]U. G Scholars, Dept. of Mechanical Engineering, N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India
[10,9]Associate Professors, Dept. of Mechanical Engineering, N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India

ABSTRACT:

The goal of this project is to design and create a functional beach cleaning device that can be used to maintain beaches. The entire beach cleaning process is made possible by this machine. It lowers the expense and work required to maintain the beach. Our primary goal is to create a machine that is both practical and affordable. Our device's ability to fit properly in a car's trunk is another one of its key features. The entire device is green, and local suppliers are available for replacement parts. The inspiration for this idea came from reading a newspaper article about how poorly the government maintains our beaches. We conducted research on the subject and discovered it to be true. According to the officials, cleaning the beach as a whole is a time-consuming and expensive task. To remove trash from beaches, the majority of governments employ the time-tested pick-and-drop technique. This is time-consuming and ineffective. We have created a device that is intended to make beach cleaning practical. Both large and small scale operations can use this machine. This makes it possible for the smaller NGO with less money to have an impact. trash collection, trash sorting, and garbage disposal make up the machine's three main tasks. A conveyor belt with spokes that is attached collects the trash. The cutting- edge locking system can gather and sort the trash. In a box behind the machine, the trash is kept. AutoCAD is software is used to design the project.

I. INTRODUCTION

In the coastal regions of India, beaches are among the top tourist destinations. Additionally, they are the most polluted. The majority of governments neglected beach cleanup. The principal cause is because cleaning it is challenging. It consumes a lot of time and resources. The trash must be manually picked up by the employees. The waste is covered in sand when it is dumped in the sand by the strong coastal breezes. This makes it challenging to locate garbage. Cleaning is challenging for the staff because they must dig every cubic foot to gather the garbage. The labour conditions are worsened by the beaches' hot and muggy atmosphere. A few governments have purchased beach cleaning equipment. The primary disadvantage is that they are fairly pricey. and there are not many who can operate it. These machines break down far too frequently, necessitating the importation of spare parts. This prompts the government to stop using such devices. Due to their powerful fuel-based motors, these machines pollute the environment while cleaning the beaches. Thus, the goal of minimising pollution is defeated in its entirety. One sort of pollution is being transformed into another. A practical beach cleaning device that is inexpensive and simple to use has been created by us. There is not a steep learning curve. The machine's components were all found locally, so finding replacement parts shouldn't be too difficult. The machine can be powered by an electric motor or by people. Solar energy is used to power the electric motor. This provides a benefit over the current models on the market that are powered by fuel motors.

II. LITERATURE SURVEY

1. Kusoun Prakoobkarn et. al, [1] analysed the waste generated on the beaches of Thailand. A large quantity of waste had to be collected and transported to the waste dumping area. The cost required was very high. Between January and October of that particular year itself the authorities encountered wastes on the sand of about 10 cubic meter per day. During the time of rain and wind storms the wastes such as plastic, young coconuts, etc are washed to the sea. Waste came along with the flow of water from Bangapakong river and came to the coastal area of the Saensuk municipality. The waste that came here have been trapped and collected with the installation of the waste trap buoy which is situated 5 km away from the coastline. This waste trap buoy that helps in preventing some garbage from getting to the beach. But now the waste trap buoy has been used for long and most of it is critically damaged. Because of all the above reasons the Saensuk municipality decided and had imported several beach trash collection trailers. But unfortunately no more they cannot be used it because of the unavailability of the necessary spare parts. This was because the spare parts that was to be replaced should be ordered from abroad. For instance, the belt conveyor was damaged or worn out due to the constant rubbing and mating out on the side of the trailer joint. This was because the coastline had a slope and it was not smooth and even. Saensuk municipality authorities used the loader i.e. tractor. The tractor is then attached to the rake to remove and collect waste on coastal area in the morning time. But the price that has to be paid is really high compared to the output. On based upon the following given reasons, the beach cleaning trailer was designed and then it had been manufactured in such a way that it will be suitable for various beach terrains and also the materials used in the trailer are locally available that to in cheaper rates. Especially, after the test and study it was also found out that almost all the ball bearings used in the trailer were regularly damaged or worn out, so to solve this issue the

International Journal of Research in Engineering and Science (IJRES)
ISSN (Online): 2320-9364, ISSN (Print): 2320-9356
www.ijres.org Volume 11 Issue 4 ǁ April 2023 ǁ PP. 248-254

Design and Fabrication of Library Management Robot

N. Venkata Surya Teja [1], Sai Seetha[2], G. Dileep Kumar[3], M. Chiranjeev Varma[4], P. Raja[5], T. Kodandaram[6] K. Hari Venkata Manikanta[7], M. Praveen Kumar[8], B. Usha rani[9], N. Suneel kumar [10].

[1,2,3,4,5,6,7,8] *Students Of Mechanical Engineering , Department Of Mechanical NSRIT, affiliated to JNTUK, AP, India.*

[9,10]*Assistant professors, Dept. of Mechanical engineering, Nadimpalli satyanarayana Raju institute of Technology,*
Sontyam , Visakhapatnam, Ap, india

ABSTRACT
The main objective of this project is to design a robot that handles library services effectively, develop a smart system to maintain a library using controller based system, reduce the load and the time consumption of human services, and ease and simplify the job of monitoring the library services and saving expenses by reducing human dependency. The robot performs multipurpose services and assistance for library users. It brings and returns books for students and records database. The robot interacts between students and library system.
Keywords: *Monitoring, Multipurpose services, Reducing human effort, Database.*

Date of Submission: 01-04-2023 Date of acceptance: 12-04-2023

I. INTRODUCTION

1.1.1 1.1 Project Definition

The goal of our project (An Autonomous Mobile Robotic Library System) is to design a smart human-robot interface, which will perform multipurpose services and assistance for library users; mainly bringing and returning books for students and other related services. The robot interacts between students and library systems.

1.1.2 LITERATURE REVIEW

Microcontroller based Robotic arm development for library management system .
Other people in different universities have done some previous similar projects. This definitely highlights the importance of having an autonomous robot within a workspace. For instance, the Department of Electrical Engineering Meghnad Saha Institute of Technology, Kolkata, India published an article concerning an autonomous robot, which could pick books and return books in different shelves within a library .

1.1.3 1.2 Project Objectives

- Design a robot that handles library services effectively.
- Develop a smart system to maintain a library using controller-based systems.
- Reduce the load and the time consumption of human services.
- Ease and simplify the job of monitoring the library services.
- Saving expenses by reducing human depend on the project architecture block diagraam

WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Fabrication of Line Follower Robot

[1]S. Raj Kumar, [2]V. Guna Sekhar, [3] L. Keerthi, [4]S. Suresh Kumar, [5]V. Dinesh, [6]V. Mouli, [7]V. Yagneswara Swamy, [8]L. Satti Babu, [9]N. Pallavi, [10]P.N.E. Naveen

[1,2,3,4,5,6,7,8] U.G Scholars, Dept. of Mechanical Engineering, N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India

[10,9] Associate Professors, Dept. of Mechanical Engineering, N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India

ABSTRACT:

The robot is used to work without the requirements of human beings. The line follower robot is an autonomously working robot moves by following the path. The path is generally is painted or drawn on the floor visible on the surface or invisible line follower by using magnetic field. The robot senses the le on the surface by the optical sensors the optical sensing arrays helps the robot movements precisely to move on the line. The kinematics of robot Is important role in line follower robot for the movements by self-operating controlling system. The IR LED Lights which emit infrared rays are used to sense by reflection back of the infrared rays to the transmitter. The turnings and movements of the line follower robot is operated by the programming the Arduino board installed in the robot by the commands and the connections driving controls. The dc motor drives the movements to follow the line are operated by the integrated circuit micro-controller provides the control signal to drive the motors. The notification signals for the end of the tracing line by the piezo electrical buzzers. The applications of line follower robot are automated material handling, domestic purpose, automated carriers and transportation. The line follower robot is line tracing robot.

Keywords: Optical IR Sensors, Line following, Arduino program controlling, integrated micro controller.

1. Introduction

A Robot is any machine which is works automatically, i.e., it starts, decides its own way of work and stops on its own. It is actually similar to human being which has been designed to reduce human burden can be controlled mechanically, pneumatically or using hydraulic ways or using the simple electronic control ways The first industrial robot was Unimates but by George Devol and Joe Engel Berger in the lane 50's and early 60% Any robot in built on 3 basic laws defined by the Russian science fiction author Isaac Asimov they are

- A robot should not harm the human being directly or indirectly.
- A robot should obey human orders unless and until it violates the first law.
- A robot should protect its own existence provided the 1st two laws are not violated.

Line follower robot a line follower robot a robot which follows a certain path controlled by a feedback mechanism. These robots may be used to in various industrial and domestic purposes. Applications such as to carry goods, floor cleaning, delivery services and transportation. The line follower robot senses a black line by using a sensor and then sends the signal to Arduino. Then Arduino drives the motor with the motor driving sensor. without any external control and certain micro controllers according to sensors input. The two IR sensors in left and right. It is made up of an infrared LED and a phototransistor placed next to each other. The LED acts as a transmitter, and the phototransistor acts as a receiver. The project aims to create a line follower robot able to follow a path and reach its desired destination. Sensing the line robot while constantly correcting wrong moves using feedback from sensors forms a effective system. The line follower Robot can be controlled by with our without micro controllers, mobile based and radio frequency. Darker objects reflect less light, and are indicated by higher numbers. Lighter objects reflect more light, and are indicated by lower numbers and the robot can operated by the android applications by programming the Arduino component with software's in C++ software language.

Objectives: The robot must be capable of moving with following the line.

2. Literature review

Literature review was carried out throughout whole Project to gain knowledge and skills to make This project. [1] This Review suggests that robot does not need any remote controller or any controller Like Bluetooth, Wi-Fi, GSM, driver etc. it will run automatically with following a line. Working of line follower Robot without any Microcontroller.[2] This review suggests The line or path following robot can runs over a specific path with the help of sensors and specific logic used in the controller. Initially it will take some time for PCB designing, printing and hardware debugging.[3] We studied Surveillance systems using line control Robot fully functional prototype of a FLC-LFR Mobile surveillance camera monitoring is very important where it gives higher coverage region than an ordinary Surveillance.[4] In this review we learn about basic principles of electronics and the implementation

JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

FABRICATION OF REAL TIME MULTI PURPOSE SOLAR BASED AIR CONDITIONING SYSTEM

[1] N. RAJEEV LOKESH, [2]B. UDAY SAI, [3]M. JAGADEESH, [4]S.DINAKAR ,
[5]R. VISWA TEJA, [6]K.HARISH ,
[7]P. YEERI NAIDU, [8]V. MOHIT KUMAR, [9]B. USHA RANI, [10]

[1,2,3,4,5,6,7,8]U. G Scholars, Dept. of Mechanical Engineering, N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India
[10,9]Assistant Professors, Dept. of Mechanical Engineering , N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India

***ABSTRACT** : The objective of this project work is to develop portable thermoelectric refrigeration system capable of maintaining vaccine temperatures between 8 °C and 13 °C. The main system consisted of thermoelectric module as cooling generator along with insulated cabin, battery and charging unit. Thermoelectric elements perform the same cooling function as Freon-based vapor compression or absorption refrigerators. To ensure the success of this project several criteria's are to be satisfied such as portability, size and cost of the system. The design of the preservation is based on the principles of thermoelectric module (i.e. Peltier effect) to create a hot side and a cold side. The cold side of the thermoelectric module is used for refrigeration purposes; provide cooling to the vaccine chamber. On the other hand, the heat from the hot side of the module is rejected to the surroundings with the help of heat sinks and fans. After gathering experimental data's and necessary guidelines from research papers on the thermoelectric refrigeration systems, the initial design of the model was made. Based on the heat load calculations, the thermoelectric module is selected. The system was fabricated and was experimentally tested for the cooling purpose.*

1.INTRODUCTION

The conventional cooling systems are used now a days are requires the refrigerant whose phase change takes place in heat exchanging and compressor are required for the compression of the refrigerant. The compressor required more power and space. The refrigerant is also not eco-friendly and increases the global warming and the major cause of ozone layer depletion.

The mini Eco-friendly refrigerator is based on the PELTIER EFFECT and a thermoelectric device called Peltier device is used for the cooling purpose. In the MEF-Refrigerator there is no need of compressor and refrigerant. Semiconductor solar based coolers (also known as Peltier coolers) off temperature control (< ± 0.1 °C) can be achieved with Peltier coolers. However, their efficiency is low compared to conventional refrigerators. Thus, they are used in niche applications where their unique advantages outweigh their low efficiency. Although some large-scale applications have been considered (on submarines and surface vessels), Peltier coolers are generally used in applications where small size is needed and the cooling demands are not too great, such as for cooling electronic components. Conventional cooling systems such as those used in refrigerators utilize a compressor and a working fluid to transfer heat. Thermal energy is absorbed and released as The applications of thermoelectric coolers are increasing with an ever increasing demand of cooling in every sector for the past forty years. The TE coolers convert electrical energy into a temperature gradient which is also known as Peltier effect.

2.LITERATURE REVIEW

[1] in his thesis submitted on integration of a thermoelectric sub cooler in 2008.There are two general research areas

WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Fabrication of Motorized Tri E-Cycle

[1]Nani Babu, [2] A. Lakshman, [3]B. Manoj Kumar, [4]B. Krishna Prasad, [5]N. Lakshman Reddy, [6]R. Vinay Kumar, [7]V. Mahesh, [8]M. Chaitanya, [9]N. Suneel Kumar

1,2,3,4,5,6,7,8U. G Scholars, Dept. of Mechanical Engineering, N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India

9Assistant Professor, Dept. of Mechanical Engineering, N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India

ABSTRACT:

The first demonstration electric vehicles were made in 1830's and commercial vehicles were available By the end of the 19th century. Today's concerns about the environment particularly noise and exhaust Emissions, coupled to new developments in batteries, fuel cells, motors and controllers may swing the Balance of electric vehicles. There are many types of electric vehicles such as railway trains, ships, Aircrafts, cars, bikes, bicycles, wheel chair and many more. But in this project is focused on electrical Powered tricycle which is categorized under Low Speed Vehicles (LVSs) are an environmentally Friendly mode of transport for short trips. This paper details about the Electric Bike which runs on the Battery thereby providing voltage to the motor. This paper compromises with design and fabrication of Electric Bike which makes use of Electric energy. The major objective of the study was to design and Develop an electric tri-wheel cycle that would be used as a multipurpose transportation medium. The Project is developed to lessen the stress for people from all walks of life and circumstances. The project Developed is made up of locally available materials. The project can be used indoors and outdoors, since It is designed to lessen the stress of some people who walk a great length. It is especially useful in Indoor use, within the vicinity of a school, university, shopping and the like. It is intended for one rider Only. It also provided a cost- effective Approach to providing individualized transport systems in a wide variety of applications.

Application: - Warehouse management, individual transport, For daily commuting, Easily accessible transportation for Vulnerable persons.

1. INTRODUCTION

An e-cycle consists of a battery, motor, throttle and controller. And out of these parts, the battery and Motor are two of the most essential components of an electric scooter. When a rider twists the throttle

On the handlebar, the controller reacts by commanding the battery to send electric energy to the motor Which is mounted on the hub of the wheels. The motor uses this energy to rotate the gear which then Moves the wheels of the electric scooter forward. This electric cycle are powered by a DC gear motor. Well, instead of having one motor powering all The wheels through chains and gears, the motor is integrated directly into the wheel itself—so the Electric motor and the wheel are one and the same thing. When you push the throttle button on the Handlebar, the controller signals the battery to release energy to the motor to produce movement. The Handlebars will also come fitted with all controls, including the throttle button (on the right), brake lever (on the left), display settings, power buttons, etc

Energy crisis is one of the major concerns in today's world due to fast depleting resources of petrol, Diesel and natural gas. In combination with this, environmental decay is an additional factor which is Contributing to the depletion of resources which is an alarming notification. Our paper proposes the Solution for this above perilous problems. The system which we innovated is the Electric Bike. This Project has various benefits both to the members of the team and also external benefits thereby making Awareness of using alternative modes of transport. The Electric Bike which works on the battery that is Powered by the motor is the general mode of transport for a local trip. The solar panels can be alternative Source for this by adding it to the system. The Electric bike which will be running on battery, the power Is supplied by the motor, thereby supplying this power to drive the other gear components. The main Purpose of using this E-bike is that it is user friendly,economical and relatively cheap. The efficiency Of this system undeniable compared to conventional modes of transport.

Transportation in Vizag :

The transportation system in the city is highly influences by continues increasing population and Migration ratio. Two types of transportation systems are available in the Vizag city. The first option is Transport vehicles and the other one is Non-transport vehicles. Further Transport vehicles are being

2. LITERATURE REVIEW

Literature review was carried out throughout whole project to gain knowledge and skills needed to make this project.

WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Design and Analysis of Knockout Drum

[1]Ch. Pavan Kalyan, [2]A. Mohan Babu, [3]G. Vivek, [4]G. Naveen, [5]B. Usha Rani

[1,2,3,4]U.G. Scholars, Dept. of Mechanical Engineering, N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India

[5]Associate Professors, Dept. of Mechanical Engineering, N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India

ABSTRACT :

Compressor suction knockout drum is one of type of pressure vessel and is used to remove liquid droplets carryover in gases to protect the downstream equipment. The knockout drum helps in improving performance of the compressor and by using this component in the compressor, corrosion of the compressor reduces. This paper deals with design, simulation, and fatigue life of compressor suction knockout drum. First the model is prepared using CATIA V5 software. Later, this model is used in ANSYS software to perform Static analysis, Thermal analysis.

Keywords: Knockout drum, Modelling, Analysis, probabilistic technique, simulation

1. Introduction

A Compression Suction Knockout Drum (CSKD) is one of the types of pressure vessel used as a real time component in many industries, such as chemical, petroleum, gas, oil, and oil refining industries. This is used to remove liquid droplet carrying over in gases through a mist pad which is fastened overhead the inlet valve/nozzle and beneath to the dish head. The feed to a vapour-liquid separator may also be a liquid that is being partially or totally flashed into vapour and liquid as it enters the separator [1]. Thus protect the downstream equipment, usually a reciprocating or centrifugal compressor. Most compressor suction knockout drums are arranged vertically. Gravity causes the liquid to settle to the bottom of the vessel, where it is withdrawn. The vapour travels upward at a design velocity which minimizes the entrainment (the process of making something part) of any liquid droplets in the vapour as it exits from the top of the vessel [2].

The most common forms of compression knockout drum in many technological applications are those subjected to internal pressure and external loads. Analytical & Numerical solutions of internal forces by cylindrical pressure vessel with semi elliptical head [3]. Stress analysis of cylindrical vessel with changeable head geometry ie: semi elliptical, hemispherical is analyzed if required to obtain contented outcomes-based application [4]. Elliptical head pressure vessel non radial & offset connections have non uniform distribution of stresses interaction region which decreases with the maximum effective stresses, as angle α increases for non-center connections [5]. The application of adequate stress-

relieving reinforcements is one of the challenges with compression knockout drum design. To ensure the safety of the pressure vessel, many types of connections are used. These connections include welded pad reinforcement, self-reinforced nozzles, and internally protruded connectors. A variety of studies have been conducted to examine pressure vessel safety under various loading situations due to the relevance of pressure vessels in engineering applications and the potential of safety concerns in the case of an accidents. There are a variety of codes that detail the rules and regulations that must be followed to ensure that equipment is constructed safely [6].

The performance of the suction knockout drum is analyzed in this study using simulation software “ANSYS” and the results are compared through analytical methods. The simulation model considers various operating conditions such as pressure, fluid properties and stress analysis to stimulate the loading conditions. These loading conditions effects the operating conditions on the separation efficiency and pressure drop in the drum. The results attained through the analysis furnish valuable insights of the performance of the compression knockout drum, which can be used to optimize its design and as well as its operation [8]. Additionally, the results can be used to enhance the overall efficiency, safety and as well the life time of compression knockout drum.

2. Literature Review

[1] Donald Mackenzie (Design by Analysis of Ductile Failure and Buckling in Tori-spherical Pressure Vessel Heads) (July to September -2008) The paper deals with study of torispherical pressure vessel head. This type of vessel exhibits complex elastic-plastic deformation and buckling behaviour under static pressure. Author has assessed both of these behaviour modes while specifying the allowable static load. By the direct route in EN code inelastic analysis is used. Plastic collapse or gross plastic deformation loads are evaluated for two sample torispherical heads by 2D and 3D FEA based on an elastic material model. Small and large deformation effects are considered in 2D analysis and the effect of geometry and load are considered in 3D analysis.

WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Automation of Home Appliances Using Bluetooth

[1]D. Bala Venkata Kishor, [2]A. Hemanth Kumar, [3]B. Arvind, [4]C. Eswara Narayana Raju, [5]G. Kumar Sai Pavan, [6]D. Lakshmi Narasimha, [7]G. Lahar, [8]D. Satish, [9]B. Usha Rani, [10]P. N.E. Naveen

[1,2,3,4,5,6,7,8]U. G Scholars, Dept. of Mechanical Engineering, N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India

[9,10]Associate Professors, Dept. of Mechanical Engineering, N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India

ABSTRACT:

Automation is a trending topic in the 21st century making it play an important role in our daily lives. The main attraction of any automated system is reducing human labour effort, time and errors due to human negligence. With the development of modem technology, smart phones have become a necessity for every person on this planet. Applications are being developed on android systems that are useful to us in various ways. Another upcoming technology is natural language processing which enables us to command and control things with our voice. Combining all of these, our paper presents a micro controller based voice controlled home automation system using smart phones. Such a system will enable users to have control over every appliance in his/her home with their voice. All that the user needs is an android smartphone, which is present in almost everybody's hand nowadays, and a control circuit. When the first computers came around, achieving the level of sophistication so as to narrate commands using voice to a machine was only realised in science fiction. However with tremendous breakthrough in the field, we are at the precipice of truly using voice to interface with devices.

KEYWORDS; Home Automation, Bluetooth, Android.

1. INTRODUCTION

The voice controlled smart home automation system helps to control electrical appliances by using voice commands. The system uses Bluetooth module for transmitting data for controlling functioning of electrical loads[2]. The Bluetooth can receive input signal from any a device which have Bluetooth compatibility such as smartphone. The smart home automation is most beneficial for handicap or aged people. The system solve the problem of switching on/off electrical appliances because when user just have to give voice command to control the appliance or electrical loads. The system is designed in such a way user can control all appliance at once or can control each separately. The system works by interfacing the on/off switches of electrical appliance or loads by using mechanical relay or solid state replay, after connecting relays in system the electrical switch works as two way switch. The voice command is sent by using a software designed for controlling the system, a built in microphone and voice recognition system implemented in device such as Samsung's Bixby. A micro-controller (Arduino Uno) is implemented in system [the micro controller receives input signal from user device and sent signal to respective relay for turning on/off electrical appliances connected with system such as bulbs, fan, air conditioner unit etc. The system works on 12V DC power which is converted from 220V AC power by using step-down transformer, rectifier for converting AC into DC and capacitive filter making fluctuating DC into pure DC power. This paper focus on the development of voice controlled based upon speech recognition system. The systems user interface device is a smartphone and software which interface with Arduino Uno to execute commands of user.

2. LITERATURE REVIEW

[1]. System consists of three main components; web server, which presents system core that controls, and monitors users' home and hardware interface module (Arduino PCB (ready-made), Wi-Fi shield PCB, 3 input alarms PCB, and 3 output actuators PCB), which provides appropriate interface to sensors and actuator of home automation system. The System is better from the scalability and flexibility point of view than the commercially available home automation systems. The User may use the same technology to login to the server web based application. .If server is connected to the internet, so remote users can access server web based application through the internet using compatible web browser. The application has been developed based on the android system.

[2] An interface card has been developed to assure communication between the remote user, server, raspberry pi card and the home Appliances. The application has been installed on an android Smartphone, a web server, and a raspberry pi card to control the shutter of windows. Android application on a smartphone issue command to raspberry pi card. An interface card has been realized to update signals between the actuator sensors and the raspberry pi card. Cloud-based home appliance monitoring and controlling System. Design and implement a home gateway to collect metadata from home appliances and send to the cloud-based data server to store on HDFS (Hadoop Distributed File System), process them using MapReduce and use to provide a monitoring function to Remote user.

ISSN 2394-739X

IJRSET JUNE Volume 9 Issue 6

International Journal for Research in Science Engineering & Technology (IJRSET)

https://www.doi.org/10.5281/zenodo.6637868

VOICE AND MEMS BASED PAGE TURNING ASSISTOR FOR DISABLED PEOPLE

[1] P. V. J Raj Kumar, [2] V. D. K. M. Lakshmi, [3] C. Suryanarayana,
[4] R. Pavan Kumar, [5] P. Sujith,
[1, 2, 3] Assistant professor, [4 5] U.G. Scholars,
[1, 2, 3, 4, 5] Department of ECE,
[1, 2, 3, 4, 5] N S Raju Institute Of Technology,
[1, 2, 3, 4, 5] Sontyam, Visakhapatnam, A.P. India.

ABSTRACT: Physically challenged persons must rely on each page turn to read a book and they must exert more effort than typical people. To make page reading easier for disabled people We provided a solution in the form of a voice-assisted page turner to the people. Arduino, which takes voice commands as an input, and turner as the controller, and the motor mechanism as the output unit, the page that is required to be turned is done When the user speaks his desired (direction) (Page must be turned) page name (next page or previous page) in front of the android phone which is connected to the Bluetooth module. The Bluetooth module is fed into the controller, which acts on it. The motor mechanism is set to turn the appropriate page. And if the person is speechless or having speech disorder, they can use their movement of one of their body parts to turn the page depends on the direction of the movement. MEMS Accelerometer is used to sense the movement of the body part and turn the page. As a result, the proposed article is a fantastic chance for anyone who could benefit from it.

KEYWORDS: [Arduino Nano, Bluetooth Module, MEMS Accelerometer.]

1. INTRODUCTION

Physically disabled or elderly persons have a hard time meeting fundamental needs like reading a book, and they rely on others to turn the pages for them. Some Turning-page gadgets, such as Page turners that can be operated manually and those that can be operated automatically- A manual page turner is made up of a stick that is held in one hand while the other is used to turn the pages.is maintained in the mouth or in the hand A rubber tip is on the stick. Enables the book's pages to slide more easily. This gadget is useful, User-unfriendly because it necessitates the use of one's lips and hands This is quite uncomfortable since it can cause damage to the mouth's corners. There's a lot of salivation as well. A page-turner that works automatically controllable motors.

So, this proposed system voice, movement-based page turning assistor for physically disabled people along with speech disorder aims at low cost and portability in use which should be operated at effort less for all kinds of disabled people.

2. OBJECTIVE

The main aim of this Voice & MEMS based page turning assistor isto make the page turning easier for the people who are differently abled. Physically disabled people must depend on other people for turning the pages while reading a book. So, to give a solution to this problem, a voice-based page turning is introduced. Here the pages turn to next page or previous page by simply giving the voice commands to the android phone which is connected to Bluetooth module. This command reaches to the Arduino nano and the motors which are connected will turn the page in required direction.

If the person is mute (having speech disorder) he/she may not be able to use their voice commands to turn the pages. So, for mute people, a movement-based page turning mechanism is provided. Here a MEMS accelerometer sensor is used to sense the movements of the person. According to their movement of any one of the body part, the pages will turn in the required direction.

3. LITERATURE SURVEY

Here we have taken some of the existing systems for voice-based page turning mechanism. Durga K Prasad Gudavalli, M Sai veerraju, I Swetha monica: They proposed a solution which is in the form of voice assisted page turner, which uses voicerecognition module as its input, Arduino as controller and motor mechanism set as output unit to turn required pages. When user speaks his required (direction in which page has to be turned) page name in front of micro phone of voice recognition module, the controller takes it as input and operates motor mechanism set to turn corresponding page.

Another reference we have considered is by HN Balachandra, S Jnaneshkumar, K Sanjay Nayak: They proposed a system which provides automatic page turning mechanism through voice commands. After turning the page, the content of the page should be read, for that, the whole page is scanned and read out to the user. Hence it useful for aged, disabled and blind people.

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 12 Issue 03, March-2023

Robot for Rescue Operation

[1]D. Pushpa Latha, [2]KM.Sai Durga, [3]D. Sharath Chandra, [4]M. Varshini, [5]B. Siva Prasad,
[1,2,3,4]U. G Scholars, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P., India
[5]Associate Professor, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P., India.

***Abstract*: Robot rescuers to help save lives after disasters. Robots could scour avalanche sites, enter burning buildings or secure city streets contaminated by poisonous chemicals, saving lives and increasing the effectiveness of rescue missions. Scientific advances in robotics research are moving the technology from predictable spaces like production lines into disaster zones. After earthquakes, accidents, avalanches or explosions, robots can take the place of their human teammates, cutting risk to human life and helping boost the chances of rescuing victims. To be most useful in a disaster situation, robots need to work hand in hand with humans. In the case of an avalanche, robots could scour the skies and the hillside, leaving a human rescuer to think strategically.**

Keywords: Arduino UNO, Easy navigation, Robotic movements, Sensors, Robot, Power Supply, Battery, Switches.

I. INTRODUCTION

An embedded system can be defined as a computing device that does a specific focused job. Appliances such as the air-conditioner, VCD player, DVD player, printer, fax machine, mobile phone etc. are examples of embedded systems. Each of these applianceswill have a processor and special hardware to meet the specific requirement of the application along with the embedded software that is executed by the processor for meeting that specific requirement. The embedded software is also called “firm ware”. Thedesktop/laptop computer is a general-purpose computer. You can use it for a variety of applications such as playing games, word processing, accounting, software developmentand so on.

II. OBJECTIVE

The main objective of our paper is to save the lives after disaster. If any fire accidents or gas leakages will happen, we will send robot there, and robot will check the conditions of surrounding places. We will visualise the condition from remote area through android mobile. This paper involves the design of a robot that can localize itself in known environment but the unknown location, find the victims and get them to safe zones.[7] The paper aims to design an autonomous robot able to search the victims and rescue them to safe places if natural calamity hits the country.[7]

III. LITERATURE SURVEY

According to previous literature by P. Velraj Kumar et al., their robot was control by using C compiler program. DC89C450 8051 type microcontroller is used to drive this robot. HEX file was generated. Algorithm for controller and for driver control is created. User interface for controller is also designed with a more streamlined design and understandable for first time user.

Harshit Gulati et al. from Birla Institute of Technology and Science, Pilani, Hyderabad Campus stated that they controlled their robot wirelessly by using Bluetooth technology. Therefore, an Arduino Bluetooth Shield was installed to their robot. The reason they are using Arduino Bluetooth Shield is because it can be program with the same IDE which microcontroller was program. The reason they choose Bluetooth technology is because it has many advantages. Among the advantages is low power consumption, two-way communication, availability and compact in size’.

According to a Changlong Ye et al., proposed a snake-like robot structure that can satisfy all the requirements when dealing with collapsed building environment. It can move fast in wide space and can also climb stairs. They have upgraded previous design by equipping the robot with track drive, which allow the robot to change shape.

IV. IMPLEMENTATION

Arduino is a tool for making computers that can sense and control more of the physical world than your desktop computer. It's an open-source physical computing platform based on a simple microcontroller board, and a development environment for writing software for the board. The components that are used in the project are gas sensor, fire sensor, relay, pir sensor, buzzer, battery, RF module, motors.

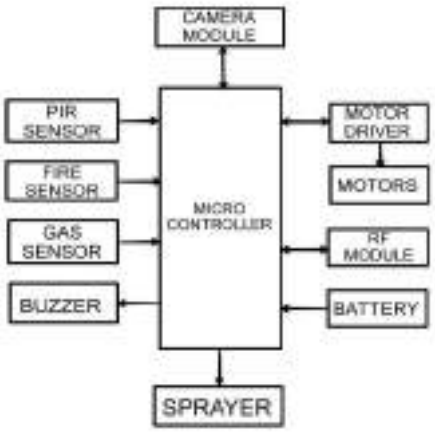

Fig 1: Block Diagram

AUTHENTICATED ACCESS FOR VEHICLE AND SPEED MONITORING THROUGH IOT

[1]A. Madhukar,[2]K. Sirisha,[3]CH. Sriya Varma,[4]CH. Kanaka Mahalaxmi,[5]K. Ravi Kumar,

[1,2,3,4]U.G Scholars, [5]Professor
Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P. India.

***Abstract*: This paper implements a system which authenticates the License of the user and their Fingerprint and to monitor the speed of the vehicle remotely. This project is promoting a concept called as Smart License. When any person enters Smart License in RFID reader, then it will be compared to data existing in program and if License is authorized, then only it asks to place the finger in FP scanner to verify. If and only if Fingerprint matches to data already existing, then the vehicle will start. And if not, a message will be displayed on LCD indicating that an unauthorized access been done. And the owner can also turn off the ignition system through GSM by giving commands. And the vehicle location can be obtained with the help of GPS module. This vehicle security and speed monitoring System is powered by an Arduino UNO microcontroller and Arduino Nano microcontroller. These microcontrollers control various modules such as RFID, GSM, GPS, FP scanner, Relay, LCD and motor. These all components are connected to Arduino UNO and Arduino Nano and Arduino UNO is connected to the internet with the help of NodeMCU, a WiFi module. Through Arduino IOT cloud, one can monitor the speed of the vehicle with the help of internet.**

***Keywords*: Smart License, RFID, Fingerprint, GSM, GPS, NodeMCU, LCD, IOT.**

I. INTRODUCTION

An Embedded system is defined as a computing device that does a specific job. Appliances such as the air-conditioner, DVD player, printer, faxmachine, mobile phone etc. are examples of embedded systems.
By using Embedded Systems in daily life, the people's daily life is being simplified and made much more advancements in the field of Electronics. One of the main concerns now in the society are the vehicle accidents and the vehicle theft. The more number of accidents are being made by unlicensed drivers and also the speed in which they are riding, and the vehicle theft is also a problem for anyone who owns a vehicle. The family members or the dear ones are the most suffered persons when one has been attacked by an accident. So, to facilitate the parents or dear ones to monitor the speed of the vehicle when their children are driving a vehicle, a system is required through which they can rest happily without worrying about their children. So, overcoming all these problems, this system has been developed.

II. OBJECTIVE

The main objective of this system is to prevent vehicles from theft, to prevent accidents happening by unlicenced drivers and to monitor the speed of the vehicle remotely from anywhere around the world. In the case of any suspicious activity, the owner can turn off the vehicle engine from start remotely and can get the location of the vehicle. In this paper, section III gives the Literature survey and section IV gives the Implementation details of our project and section V shows the obtained results.

III. LITERATURE SURVEY

Pradeep Sawant, Suraj Godse, et.al., proposed Microcontroller Based Smart Card Car Security System. In this system, a PIC167877A microcontroller, RFID reader, RFID card and a GSM modem were used for the successful implementation of the system. The PIC16F877A microcontroller was used to serve as the entire brain of the system which holds the unique RFID card number and controls the electromagnetic relay and the GSM MODEM. The Electromagnetic relay served as the mechanical tool that secures the car ignition system, and the GSM modem was used to call the car owner whenever there is an intrusion attempt. Consequently, with this kind of system presented in this paper, the security of our automobiles can be more sensitive in order to secure and protect our automobiles more from any intrusion and theft in an electronic based approach [1].
Rajatabh Agarwal and Boominathan P implemented Vehicle Security System Using IoT Application. The main extent of this project is to stop the motor of an automobile naturally. This should be possible at whatever point a man attempting to take the vehicle, around then sends a hinder to a programmable microcontroller of Arduino family that stores proprietor's number upon an Intimation message out of the blue. When some individual tries to take the auto then microcontroller gets a prevent and the proprietor gets a SMS that his auto is being stolen then the proprietor login to the IOT based web server and control the vehicle like start buzzering, or can execute engine [2].

IJNRD.ORG ISSN : 2456-4184
INTERNATIONAL JOURNAL OF NOVEL RESEARCH AND DEVELOPMENT (IJNRD) | IJNRD.ORG
An International Open Access, Peer-reviewed, Refereed Journal

WIRELESS BLACK BOX FOR VEHICLES USING SENSORS AND GSM MODULE

[1] L. Vasantha, [2] B. Thanvi Trilochana, [3] K. Bala Veera Swamy, [4] A. Vinod Kumar, [5] B. Ravi Chandra,

[1,2,3,4] U.G. Scholars, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P. India.

[5] Associate professor, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P. India.

ABSTRACT: ***The main purpose of this wireless black box project is to develop a vehicle black box system that can be installed into any vehicle all over the world. This paradigm is often designedwith minimum range of circuits. Wireless black box is basically a device that will indicate all the parameters of a vehicle crash and will also store the data in SD Card and display its parameters of every three second such as date, time, temperature, location, vibration, alcohol limit etc. when the time of accident, the message will be sent from the system built inside the car to the registered mobile numbers such as emergency numbers of police stations, hospitals, family members, owner etc., We have used various typesof sensors like temperature sensor. Vibration sensor measures vibrations felt by the car during accident. Alcohol sensor is located on the steering wheel which will indicate whether the driver is drunk. Potentiometers which is used to indicate the speed of the car during the accident. All these parameters sensed by the sensors will send the signal to the Arduino Uno.***

KEYWORDS**:** ***Vehicle Black Box, Sensors, Arduino, Alcohol sensor, Temperature sensor, Vibration sensor, Potentiometers, GSM, GPS, SD Card.***

I. INTRODUCTION

In today's world as the population increases day by day the numbers of vehicle also increase on the road and highways. This results in accident that leads to the traffic jams and people do not get the help instantaneously. Road accidents constitute the major part of the accident deaths all over the world. This takes a toll on the property as well as causes human life loss because of unavailability of immediate safety facilities. Complete accident prevention is unavoidable but at least repercussions can be reduced. In highly populated Countries like India, everyday people lose their lives because of accidents and poor emergency facilities. These lives could have been saved if medical facilities are provided at the right time. In many situations the family members or the ambulance and police authority is not informed in time. This result in delaying the help reached to the person suffered due to accident. In order to give treatment for injured people, first we need to know where the accident happened through location tracking and then send a message to your related one or to the emergency services.

II. LITERATURE REIVEW

Rajashri R, Lokhande and Sachin, P. Gawate in have developed a Wireless black box using MEMS accelerometer and GPS tracking system to monitor the accident. The system consists of conjunctive components of an accelerometer, microcontroller unit, GPS device and GSM module. At the time of project installation, the registration number of the vehicle, relative's phone number and emergency services number are fed into the source code of the system. When a car meets with an accident the sensor will be activated automatically and start its surveillance mode. If the user is

WEED DETECTION USING RASPBERRY PI BASED ON IMAGE PROCESSING

[1]G. Revathi Devi,[2]K. Pavan Kalyan,[3]CH. Sathwika[4]M V K. Sanjay,
[5]Mrs. M V RojaRamani,

[1,2,3,4]U. G Scholars, [5]Assistant professor,
Department of ECE, N S Raju Institute of Technology, Sontyam,Visakhapatnam, A.P. India

***Abstract*: Agriculture, although known as the backbone of the Indian economy, is facing crisis in terms ofproduction. One of the major issues in the agriculture sector is the growth of weeds among thecrops. The weeds are removed by three ways, that isby tilling method, by manual labour and finally by weedicides. Weeds are removed by above three methods which consumes more time and amount. Weed is detected and removed by using raspberry pibased on image processing. The weed image is captured using web camera which is interface with raspberry pi, the captured image signal is stored andthat signal is given to raspberry pi and finally imageprocessing algorithm takes place. The identified weed is captured and it removed by spraying chemical.**

***Keywords*: Agriculture, Crop, Image Processing, Raspberry Pi, Weed Detection, Weed Removal**

I. INTRODUCTION

Weeds are the unnecessary plants growing among a set of cultivated crops that compete with the desiredplants for resources like light, water, space and nutrients. The weeds may take up the essentials supplied for crop growth. Such a situation can cause considerable decline or delay in the yield. Hence there is a requirement to inhibit the weed growth as much as possible. Also, the growth rates of the weedsare likely to be higher thanthe crops. This is becausethe weed's root or seed is already present in the soil waiting for the ambient growth conditions to shoot up. This calls for repeated and periodic weed removal. This is a time consuming and labor- intensive task when manually performed. An automated weed removal system is a solution.

The identification and removal of weeds are performed through image processing [5]. The systemfocuses on reducing human labour as well as the timerequired to identify and remove the weeds without adversely affecting the crop. The weed management system performs k-nearest neighbour algorithm fromthe field. Image processing is then performed in the Raspberry Pi board using virtual network computing viewer which is a library of pre-written functions. K-nearest neighbour algorithm for weed detection is developed. Based on the results, the activation of the weed removal mechanism is controlled. The entire system is set up on a moving robot.

II. OBJECTIVE

The main objective of this project is to build a systemwhich detects weeds using image processing [5]. Theautomatic weed detection and smart herbicide sprayer
[4] robot developed in uses an image processing algorithm to process the images captured by the raspberry pi camera at regular intervals and upon identifying the weeds, an arrangement is made to spray the herbicide directly and only on the weeds.

III. LITERATURE SURVEY

[1] Ajinkya Paikekari The automatic weed detection and smart herbicide sprayer robot developed in uses an image processing algorithm to process the images captured by the Raspberry Pi Camera at regular intervals and upon identifying the weeds, an arrangement is made to spray the herbicidedirectly and only on the weeds. The algorithm mainlyuses an K-Nearest algorithm approach to detect weeds. Once the weeds are identified, a signal is sentfrom Raspberry Pi to the motor driver IC controllingthe waterpump motors to spray the chemicals over the weeds.

[2] Amir H. He developed a weed detection and classification method that can be applied for autonomous weed control robots. The plants are classified into crops and weedsby a machine vision algorithm. Image acquisition is done by any types of digital cameras such as normal webcams. The acquired images are processed in the LabVIEW environmentto find locations of weeds in the image. Finally, herbicides are Sprayed on desired spots.

[3] Aravind R, Daman M. He developed field imagecaptured is processed by theRaspberry Pi board. The image passes through various stages of processing. Initially, image pre-processing is performed to suppress unwanted distortions and to enhance some image features important for further processing.

[4] Ali M. Shirzadifar. The other option is to use textural information of weeds and crops. He was among the first who used texture features as a discrimination factor in weed detection and achievedclassification accuracy ranging from 30 to 77% for different species. In addition, system response time ofthe algorithm was about 20 to 30 seconds whichwas asignificant drawback. Polder et al. and Ahmad also exploited textural features of weedspecies in order toclassify them.

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 12 Issue 03, March-2023

Home Automation for Disabled Person using Voice Tag

[1]K. Triveni,[2]K. Hemanth Patnaik,[3]M. Durga Sri Prasad,[4]G. Surya Venkata Durgesh,
[5]M. Veeraiah,
[1,2,3,4]U.G Scholars, Department of ECE, N S Raju Institute of Technology, Sontyam,Visakhapatnam, A.P, India
[5]Assistant professor, Department of ECE, N S Raju Institute of Technology, Sontyam,Visakhapatnam, A.P, India.

***Abstract*: Home automation is one of the major growing industries that can change the way people live. Some of these home automation systems target those seeking luxury and sophisticated home automation platforms; others target those with special needs like the elderly and the disabled. Typical wireless home automation system allows one to control household appliances from a centralized control unit which is wireless. These appliances usually have to be specially designed to be compatible with each other and turn ON or OFF any appliance that is plugged into a wall outlet, get the status of different sensors and take decisionaccordingly. The system is portable and constructed in a way that is easy to install, configure, run, and maintain. The perfect user interface still does not exist at present and to build a good interface requires knowledge of both sociology and technology fields**.

Keywords: Home Automation, Voice Tag, Wifi - Module, Wireless Communication, Android Mobile.

I. INTRODUCTION

An embedded system can be defined as a computing device that does a specific focused job. Appliances suchas the air-conditioner, VCD player, DVD player, printer, fax machine, mobile phone etc. are examples of embedded systems. Each of these appliances will have aprocessor and special hardware to meet the specific requirement of the application along with the embedded software that is executed by the processor for meeting that specific requirement. The embedded software is also called "firm ware". The desktop/laptop computer is a general-purpose computer. You can use it for a variety accounting, software development and so on.

II. OBJECTIVE

The purpose of a home automation system is to streamline how your home functions. Consider some ofthese benefits: Remote access: Control your home from mobile devices, including your laptop, tablet, orsmartphone. Comfort: Use home automation to make your home a more comfortable, livable space.

II. LITERATURE SURVEY

Mukesh Kumar et.al proposed to make a home automation system specifically for the paraplegic people. The main challenge discussed in this was how to adjust a bed in different positions using voice commands. As the disabled can't afford the hefty price tag of something like Google Home, the system described in this paper used readily available devices [4].

Yash Mittal talks about developing a home automation system using a dedicated hardware module for the voice recognition module and a Arduino Uno microcontroller to send respective commands to devices. The voice commands are divided into five groups with up to seven commands in each group. The command groups are Access,Safety, Fan, Light and Utility. The user has to state the group name followed by the command for it to register successfully. The voice recognition module istrained using the voices of five male and five female users. This ensures that the system can recognize voice commands irrespective of user age, gender, accent and distance from microphone. A bar graph of the average number of attempts it takes to successfully recognize a command at different distances from the microphone is generated to determine the best position for placing the central microphone [8].

IV. IMPLEMENTATION

The firmware is based on the Lua project, and built on the ESP8266. Secure WIFI technology is used by server, and hardware interface module is used to communicate with each other. The user may use the same technology to login to the server web-based application. Is server is connected to the internet, so remote users can access server web-based applicationthrough the internet using compatible web browser.

A switch regulates the ON and OFF of a circuit. When the switch is OFF, a gap is present in the circuit and it is considered open. Electric currentcannot flow through such a circuit. The opposite process takes place if the switch is ON thus letting the flow of electric current. The electric circuits are closed-loop or paths, forming a network of electrical components where electrons can flow. This path is made using electrical wires and is powered by a source, like a battery. The start of the point from where the electrons start flowing is called the source, whereas the point where electrons leave the electrical circuit is called the return.

IJNRD.ORG ISSN : 2456-4184
INTERNATIONAL JOURNAL OF NOVEL RESEARCH AND DEVELOPMENT (IJNRD) | IJNRD.ORG
An International Open Access, Peer-reviewed, Refereed Journal

Under Water Surveillance and Rescue Drone with Camera

[1]J.Mounika, [2]D.Meghana Sandhya, [3]A.Bhanu Prakash, [4]G.sailendra, [5]Mr.K.Rajasekhar

[5]Assistant Professor, Department of ECE, N S RAJU Institute of Technology, Sontyam, Visakhapatnam, A.P, India.

[1,2,3,4]U.G. Scholars, Department of ECE, N S RAJU Institute of Technology, Sontyam, Visakhapatnam, A.P, India.

*ABSTRACT: **Highly developed drone technology enables the use of drones in a wide variety of areas. However, those drones are mainly used in the unmanned aerial vehicles. We believe that underwater drones will become a big research topic and find a market in the near future. We developed an underwater drone with a wide angle camera acting as the "eye" of the drone, an arm which acts as a helping hand of the drone, and also implemented a triggering mechanism for emergency purpose. The designs are based on the open source hardware and will be shared as an open-source for contributing to the innovation of manufacturing including drone. The function of the wide angle camera is to update the live video footage to the surface control unit. The underwater drone was designed by extending the Cam module, arm, frame, and the printed circuit board designed by own team. As for the application of the underwater drone, we focused on to perform the Rescue Operation to save the person who is shrinking under the water, investigating Damages under the Ship Bottom, searching Loosed items, Under Water Search operations up to 45min, fish species in a natural lake to help protect the original environment. Experimental results show that the function of the underwater drone achieved at diving in the lake.***

Keywords: Marine robotics, ArduinoNano, Sensor node, NRF24L01 module, video camera, Bldcmotors etc…

I. INTRODUCTION

Ocean covers around 71% of the planet and 44% of the World's population is living along coastline. Oceans is the main sources of many natural resources including oil, mineral such as nickel, cobalt, even salt and sand.

Now a day's, main problem in Seas and Lakes is people are falling / grabbing in to water by the force generated by the water, Damages under the Ship Bottom generated by the sea, Loosed items Under Water, etc... They are many types of rescue systems are available in the world which are operated on the surface of the water areas only but not work under water perfectly. The profficional divers also stay up to max 20Min under the water it is due to the lack of sufficient Oxygen levels under water. Now a day the UAV vehicles are highly developed drone technologies enables the use of drones in a wide variety of areas such as in aerial photography for appreciating the beauty of nature, in natural disasters where direct human intervention is impossible, or in agriculture for spraying pesticides to exterminate noxious insects. Furthermore, Amazon is preparing to use drones for delivering packages to customers. In a word, drone technology brings innovation and opens new markets. However, these drones are limited to the unmanned aerial vehicles. We believe that underwater drones, which are autonomous robots capable of moving and operating in the water, will become a big research topic and find a market in the near future.

A camera acting as an "eye" is an essential component of a drone. A grabbing Arm is used to help to push / pull objects and classifying the objects. For example to perform the Rescue Operation to save the person who is shrinking under the water, investigating Damages under the Ship Bottom, searching Loosed items, Under Water Search operations up to 45min it may help to investigate and observes fish species

IJNRD.ORG ISSN : 2456-4184
INTERNATIONAL JOURNAL OF NOVEL RESEARCH AND DEVELOPMENT (IJNRD) | IJNRD.ORG
An International Open Access, Peer-reviewed, Refereed Journal

ATTENDANCE MONITORING SYSTEM USING MULTIPLE FACE RECOGNITION WITH SMS ALERT

[1]K. Mounika,[2]M. Likhitha, [3]A. Nagendra Kumar, [4]M.K. Rajkiran, [5]Y. Sravana Kumar,

[1,2,3,4]U.G Scholars, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P., India

[5]Assistant Professor, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P., India.

ABSTRACT: ***Now a day's attendance plays a major role in classrooms. Conducting attendance manually is indeed a tedious task, it consumes a lot of the lecture hours which leads to less productivity and waste of time. To get over such dissipation of time, there is a direct need of an attendance system which is reliable, efficient, and which saves time during lecture hours and avoids proxy. But authentication is an important issue in this system. This paper concentrates on the design of a Biometric and Face recognition based attendance system which uses the face recognition algorithms to monitor the students attendance and sending the SMS to their parents regarding their absence and the data will be updated automatically on excel sheet.***

KEYWORDS: ***Face recognition, Open CV, Raspberry pi, web camera, GSM***

I. INTRODUCTION

IoT makes us to develop a system without human interference. This technology transfers data over the network. It allows objects to be sensed and controlled remotely. The conventional methods for taking attendance in most of the institutions are by calling names or signing on papers, which is highly time-consuming and insecure. For the above problem Biometrics based system which can reduces the time and proxy attendance. Now a day's Biometrics has an epic range of applications and more innovative ways of using it keeps emerging. Biometrics such as finger prints for authentication and face recognition for identification. face recognition technology stands tall with its unique advantages. Every student has a separate facial identity and it cannot be faked by mere proxies. In the end, face recognition is totally non-intrusive and so does not expose the user to germs that may be prevalent in a system that has multiple users.

II.OBJECTIVE

The main objective of our paper is to design bimodal attendance system of biometric authentication such as the student need to place an finger at fingerprint scanner and also multiple face recognition based attendance system which can detects and recognises multiple faces at a time in class hour and generates the data in excel sheet and send the SMS to the parents regarding their children absence through GSM.

III. LITERATURE SURVEY

Kawaguchi et.al., proposed an algorithm in which all the faces detected in an image are compared to the images in a database with constraint on their seating position thus making the system very susceptible to rudimentary techniques of just detecting presence of a person in a particular place [1].

R.Kiran Kumar, Mekala.S et.al., The main advantage of face recognition attendance system is to prevent the fake attendance system in the classrooms. The camera module is placed at the center of the classroom. The face recognition method recognizes the face and automatically verifies with the existing database present in Open CV and the attendance is taken [2].

JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

EMBEDDED CONTROLLED SMART INVERTER

[1]Jayanth Prajapathi, [2]K. Manish, [3]D. Manisha, [4]J. Kiran Kumar, [5]Y. H. D. Aparna,

[1,2,3,4]U. G Scholars, Department of ECE, N S Raju Institute of Technology, Sontyam,Visakhapatnam, A.P, India.

[5]Assistant professor, Department of ECE, N S Raju Institute of Technology, Sontyam,Visakhapatnam, A.P, India.

ABSTRACT: ***In this current era of smart operation of electronic devices has indeed created a phenomenal improvement in our lives. Technology also helps us to improve manifold. The current smart UPS system has many places for improvement. In this time and age, there is a shortage of natural resources and hence a shortage in the power supplied through these power grids. In this paper, we explain about a Smart invertersystem that prevents damages and accidents due to overloading at homes, offices etc. In our proposedsystem, we have used LCD and Voice Assistant as our Output sources, which are connected to the Inverter. The LCD displays the Battery Percentage, Battery BarGraph, Voltage Percentage and Overload Detection. The voice Assistant or Speaker informs the user whether the Inverter is working on battery or Circuit board and it also alerts about the overload. In this we have used various sensors for voltage and current control across the circuit. We have also used Amplifiersand SD Card modules for SD Card processes such as reading and writing with a microcontroller. Thus, the domestic life of the user goes unperturbed and helps him interact with Inverter in a smart and easy way.***

KEYWORDS: ***Smart Grid, Power System Reliability, Smart Inverter, Uninterrupted Power Supply (UPS), Battery, Switches, Renewable Energy System, UPS Management.***

I. INTRODUCTION

In this project, you will design and implement an

embedded-controlled smart inverter that includes overload detection, battery percentage display features and voice assist. The smart inverter will be capable of controlling the power output of the renewable energy source to maintain a stable and efficient power supply [5]. The inverter will use an embedded system to monitor thevoltage, current, and frequency of the input power and adjust the output power accordingly. Additionally, the smart inverter will be able to detect and display the battery percentage level, as well as detect and prevent overloads from occurring. The overload will be detected and solved based on thepriority given to the components attached to it. The objects that are more useful are given high priority andthe objects with less usage are given as low priority.

In this system we are using 6 relays in which 4 are high priority and the remaining 2 are low priority relays. Whenever there is an overload in the circuitry then automatically the low priority relays are turned off, until the overload is solved.

Users can check the parameters and operate loads according to the availability of the charging status of the battery. We have designed a simple application. Where users can check all parameters. Users can alsochange their priorities. Users can also add their own voice to the voice Assist system through SD card [7].

II. OBJECTIVE

IJNRD.ORG ISSN : 2456-4184
INTERNATIONAL JOURNAL OF NOVEL RESEARCH AND DEVELOPMENT (IJNRD) | IJNRD.ORG
An International Open Access, Peer-reviewed, Refereed Journal

SMART BOREWELL CHILD RESCUE SYSTEM THROUGH WIRELESS MONITORING USING ARTIFICIAL INTELLIGENCE

[1] M. Akshaya,[2] CH. Pavani,[3] L. Pavan Kumar,[4] B. Naresh,[5] G. Siva Suresh Kumar,

[1,2,3,4] U.G Scholars, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P, India.

[5] Assistant professor, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P, India.

ABSTRACT: ***In this current era of smart operation of electronic devices has indeed created a phenomenal improvement in our lives. Technology also helps us to improve manifold. The current smart UPS system has many places for improvement. In this time and age, there is a shortage of natural resources and hence a shortage in the power supplied through these powergrids. In this paper, we explain about a Smart inverter system that extends or increases the basic life of a battery which is extremely useful during long and unprecedented power outages.The domestic life of the user goes unperturbed and helps him interact with Inverter in a smartand easy way.***

KEYWORDS: ***Smart Grid, Smart Inverter, Uninterrupted Power Supply (UPS), Battery, Switches, PowerSystem Reliability, Renewable Energy System, UPS Management.***

I. INTRODUCTION

An embedded system can be defined as a computing device that does a specific focused job. Appliances such as the air-conditioner, VCD player, DVD player, printer, faxmachine, mobile phone etc. are examples of embedded systems. Each of these applianceswill have a processor and special hardware to meet the specific requirement of the application along with the embedded software that is executed by the processor for meeting that specific requirement. The embedded software is also called “firm ware”. Thedesktop/laptop computer is a general-purpose computer. You can use it for a variety of applications such as playing.

II. OBJECTIVE

To develop voice control to pick and place objects for humans. To validate the design on reconfigurable hardware (Raspberry Pi). Integrating with an object to using web cam. To develop a voice control robot.

IJRAR.ORG E-ISSN: 2348-1269, P-ISSN: 2349-5138

INTERNATIONAL JOURNAL OF RESEARCH AND ANALYTICAL REVIEWS (IJRAR) | IJRAR.ORG

An International Open Access, Peer-reviewed, Refereed Journal

REAL TIME SAFETY MEASURES IN RAILWAYS USING RFID AND EMBEDDED SYSTEM

[1]J.Venkat Akash, [2]G.Khushbu, [3]K.Sai Ganesh Manikanta, [4]CH.Manikanta Gupta, [5]Maddu.Veeraiah

[1,2,3,4]U. G Scholars, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India

[5]Assitant Professor, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India

ABSTRACT--- Realtime safety measures in railways using RFID and embedded systems is a system which is implemented for detecting faults and ensuring safety measures in train compartments. This is done in two parts. In the first part, the sensor nodes are used for collecting data such as temperature, intra and inter bogie temperatures automatically. These collected data are processed to monitor temperature and bogie temperature, if any mal detected exit door opens and water is pumped automatically in the compartment and the information is reached to locomotive engineer and the nearby station master. The second part implements the surveying system for the railway tracks which detects vibrations in compartments using vibration sensor. Hence the system performs both the data acquisition and the survey. The overall process is then controlled by the Arduino which is 8-bit microcontroller and suits very well for the Data acquisition and the control system-based application used largely in the industrial applications. In this project, arduino gets the data from sensor nodes, the survey sensors manipulate and issues the control signals to the final control elements. Also, it uses GSM to send data to the locomotive engineer. It also consists of RFID reader which reads the passengers tickets which has an RFID tag and opens the door only when the tickets are scanned.

KEYWORDS—Arduino, Global System for Mobile Communication (GSM), Radio Frequency Identification (RFID).

I. INTRODUCTION

The Railways is the chief mode of transport for the people for the people across various strata in the society. In such situation there is a need for ultimate Conventional railway networks lack the necessary infrastructure to respond swiftly to the emergencies such as fire accidents. Nowadays accidents have become part and parcel in our daily routine life not a single day passes without them. Whether they are road-accidents or they are train accidents or air crashes, they definitely occur every day in various parts of the world. Also, other problem created when the continuous need in monitoring and maintaining the railway tracks to ensure to free from cracks and inclination. Depending on recent developments in railway system, high speed trains are being extensively used, and rail transportation is being increased. The Railways is the chief mode of transport for the people for the people across various strata in the society. In such situation there is a need for ultimate security to be implemented across the railway network. Conventional railway networks lack the necessary infrastructure to respond swiftly to the emergencies such as fire accidents. Nowadays

A SMART SOLAR PV MONITORING AND CLEANING SYSTEM

[1]D. Pavani Prathyusha,[2]Kalyan Nemani ,[3]K. Jeevan Kumar,[4]B. Durga Prasad,
[5]K.Y.K.G.R. Srinivasu,

[1,2,3,4]U.G Scholars, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P, India.
[5]Assistant Professor, Department of ECE, N S Raju Institute of Technology, Sontyam,Visakhapatnam, A.P, India.

ABSTRACT: Now–a–days the usage of electricity has increased to more number, thus the generation of electricity is huge process from the power plant to substation and from substations to transformers and from transformers to homes there is huge process behind this generation of electricity in India. Where we all know that electricity is generated in different ways like through coal, hydro energy and there is another way to generate electricity and i.e. solar power panels. This solar panels which reduces pollution, cost and gives an effective source of energy. In the working of solar panel all it requires is sun in generation of electricity, so there by increase in dust which effects the solar panel working. Thus, toovercome this problem this project describes is of automatic solar panel monitoring and cleaning system.

KEYWORDS: Arduino UNO, sensors, solar panel, Power Supply, Battery.

I. INTRODUCTION

The combination of bothhardware parts and software parts are combined to design this project and perhaps additionally it is designed to perform a dedicated function. The main control system is Arduino UNO R3 with the help of embedded system concept it is designed to measure the voltage and the presence of light in and on the solar panel.as the problem is increase of dust on the solar panel this system enabled with automatic cleaning.

II. OBJECTIVE

The ultimate focus of this project describes the implementation of a Smart Solar panel monitoring and cleaning system is with primary course on building it with Embedded Systems in which this system enables dust monitoring and cleaning processand system main controller as Arduino. which is made for automatic cleaningto increase the total efficiency of the solar PV (Photo Voltic cells) voltage generation in the panel. Any solar panel to give its maximum energy after conversion of sun light into renewable energy to give its maximum energy generation is system designed for.

III. LITERATURE SURVEY

Sumit N. Dutta, Abhishek Kumar and Hirak Barua: These authors measured solar cell parameters like voltage, current, temperature and light intensity with theaid of sensors so as to measure energy of the solar panel(s). They all used the PIC16F8 series. The data received from the sensors (i.e. the measured values of the voltage, current, temperature and light intensity) are then displayed on an LCD which is interfaced to the microcontroller. The uniqueness of this work is that a different microcontroller was used which is the ArduinoUno R3 which was programmed using C programming language[1].
Mark Anderson: Current labour-based methods for cleaning photovoltaic arrays are costly with respect to time, water and energy usage and lack automation capabilities. In this paper a novel design for the first ever human portable robotic cleaning system is presented which is capable to clean and manoeuvre on the glass surface of a PV array at varying angles from horizontal tovertical.[2].
Dhanusha Gokulan: In this referred project, a solar PV module cleaning system was developed that utilized pressurized air-water blend. The benefits of this innovationare that it has no moving parts, no protect rails, no batterysubstitution, less water utilization and no self-cleaning is required for the cleaning framework. This project can be practised in solar farms only, not in standalone system. Also the architecture is bulky and heavy they are not wearing helmets. A Limit switch was then used to successfully determine whether a miner has removed his helmet or not.[3].

IV. IMPLEMENTATION

From the below block diagram, as a embedded systemproject Arduino UNO R3 digital pins are connected tothe voltage sensor and light sensor. Initially voltage sensor is connected to solar panel. The 16x2 LCD is connected to the digital pins of Arduino uno and the dc motor are connected to the anolog pins in the Arduino uno. An external power supply is given to the Arduino uno. The voltage from the solar panel is detected through the voltage sensor and can observed

IJNRD.ORG ISSN : 2456-4184
INTERNATIONAL JOURNAL OF NOVEL RESEARCH AND DEVELOPMENT (IJNRD) | IJNRD.ORG
An International Open Access, Peer-reviewed, Refereed Journal

WIRELESS ELECTRIC VEHICLE CHARGING SYSTEM

[1]S. Jayasri,[2]S. Pravallika,[3]R. Sai Venkata Preetham,[4]E. Manemma,

[1,2,3]U. G Scholars, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P, India

[4]Assistant professor, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P, India.

ABSTRACT: ***Electric Vehicles came into existence as world is shifting towards electrified mobility to reduce the pollutant emission caused by non-renewable fossil fuel vehicles. Electric Vehicles can be charged either by wired or wireless connection. With wireless charging systems properly integrated into vehicles, and situated strategically around a city as well as at owner's homes, there should be no need to ever plug in their vehicles. Drivers should simply park as usual over a coil placed on the ground or buried in it at the garage, or even while driving. The science behind this innovation is electromagnetic induction and this will increase the use of electric vehicles and also make them reliable and usable for large distances. This paper presents the prototype of charging Electric Vehicles using RFID.***

KEYWORDS: ***Arduino UNO, Wireless Charging, Energy Efficiency, Enhanced User Experience, RFID, Power Supply, Battery, Switches.***

I. INTRODUCTION

Electric vehicles have a lower cost of ownership compared to equivalent conventional gas vehicles while also helping to reduce environmental footprint. Apart from environmental benefits, electric vehicles have also proven helpful in reducing cost of travel by replacing fuel by electricity which is way cheaper. Wireless electric vehicle charging system (WEVCS) technology operates on the principles of magnetic inductance and magnetic resonance. Comparing plug-in electric vehicles with wireless charging, WCS brings more advantage in simplicity, reliability, user friendliness.

II. OBJECTIVE

The project's main objective is to charge electric vehicle with a valid ticket to be allowed to charging point. The project is implemented using RFID card and Arduino. In this system passenger will carry RFID cards which will be scanned at respective stations and automatically charges the device, which is being parked on the slot.

III. LITERATURE SURVEY

B. S. Kim and D. H. Cho et.al., implemented the Wireless power transfer for electric vehicles, an overview of wireless power transfer (WPT) technology for electric vehicles (EVs), including the different types of WPT systems and their advantages and disadvantages. The paper also discusses the current status of WPT technology and the challenges that need to be overcome for widespread adoption [1].

H. Li and W. Zhang, implemented the recent advancements in wireless charging of electric vehicles, provides the recent advancements in wireless charging technology for EVs, including the different types of wireless charging systems and working principles [2].

G. A. Uddin, M. A. Hannan et.al., proposed wireless power transfer for electric vehicles and market analysis where it provides a comprehensive review of WPT technology for EVs, including the different types of WPT systems, their advantages and disadvantages, and their market potential. The paper also discusses the current status of WPT technology and the challenges that need to be overcome for widespread adoption [3].

IoT VIRTUAL DOCTOR ROBOT

[1]Preeti Das, [2]S. Mythree, [3]P.Yernaidu, [4]B. Manish Kumar, [5]B.Siva Prasad

[1,2,3,4]U. G Scholars, Department of ECE, N S Raju Institute of Technology, Sontyam,Visakhapatnam, A.P. India

[5]Associate professor, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P. India.

ABSTRACT: ***Healthcare monitoring real time data transferring system in hospitals and other health sectors has tremendous growth, and this healthcare monitoring system having advanced technologies becoming one of the best approaches across globe nowadays. Doctors are usually needed to work at every hospital and emergency centre every now and then. But it is not feasible for every doctor to be available at every place at desired time. The problem with video calling is that video calls need to be done from a PC or laptop on a desk. This limits the doctor's capacity to view patient or around operation theatre at will or even move through hospital rooms as needed. Now-a-days there is an increase in elder adult population that should be capable of taking care and need a close monitoring in an emergency situation.***

KEYWORDS: ***IOT, NodeMCU, Easy navigation, Robotic movements, Health monitoring, Robot, Power Supply, Battery, Switches.***

I. INTRODUCTION

An embedded system can be defined as a computing device that does a specific focused job. Appliances suchas the air-conditioner, VCD player, DVD player, printer,fax machine, mobile phone etc. are examples of embedded systems. Each of these appliances will have a processor and special hardware to meet the specific requirement of the application along with the embedded software that is executed by the processor for meeting that specific requirement. The embedded software is also called "firm ware". The desktop/laptop computer is a general-purpose computer. You can use it for a variety of applications

such as playing games, word processing, accounting, software development and soon.

Occasionally, doctors are required to work at every hospital and emergency room. Yet, it is not practical for every doctor to be accessible at all locations at all times. The drawback of video calling is that it requires using a computer or laptop at a desk to make a connection. This restricts the doctor's ability to freely travel among hospital rooms, see patients, or even be in the operating room as needed.

II. OBJECTIVE

The main objective of our paper is to make Doctor's available at anyplace anytime and also Doctors can move around in operation theatres. Doctors can move around the patient with ease. Doctors can see medical reports remotely via video call, and Doctors can move around in other rooms at will

III. LITERATURE SURVEY

Divya Ganesh, Gayathri Seshadri, Sumathi Sokkanarayanan et.al., Implemented the Smart Automated Health Machine (AHM) using Internet of Things (IoT), with an interactive graphical user interface for medical. It is a self-screening system, aimed at being the first point of contact for patient screening, to monitor heart rate, blood pressure, ECG, oxygen saturation, and visual acuity of patients. It also placed a button used in the time of emergency which makes doctor to come online or to call an ambulance. Due to the fixed system and video call provided by the app it didn't make effective for doctors to know proper condition of the patient [1].

Mrs. A. Usha, Mrs. P. Sujidha et.al., Proposed a wearable device to provide health care services. Ituses cloud storage service to store the data information of elder's daily health activities like blood pressure, pulse rate, temperature. The telemonitoring application is presented which allows others to view the patient's vital parameters remotely and dynamically in a Web page inreal time [2].

Anita Chaudhari, Jeet Thakur and Pratiksha Mhatre et.al., Developed a Quadruped robot for

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 12 Issue 03, March-2023

EVM Through Id and Fingerprint Verification using RFID

[1]P. Sandeep, [2]Y. Narasimha Reddy, [3]V. Madhu Sai, [4]A. Vijaya Sri.
[1,2,3]U. G Scholars, Department of ECE, N S Raju Institute of Technology, Sontyam,Visakhapatnam, A. P., India.
[4]Assistant professor, Department of ECE, N S Raju Institute of Technology, Sontyam,Visakhapatnam, A. P., India.

Abstract: **There are around 167 Democratic countries in the world. But only around 20 countries were using Electronic Voting Machine for conducting the Election. Some of the developed countries in the world such as England, France, Germany, United States do not use the EVMS. TheSupreme court of Germany has stated that voting through this technology is unconstitutional. India is one among the largest democratic country in theworld and there are around 911 million people.India is also one of the largest populated voting countries. The maximum amount of votes polled are around just 67% which is considered to be very less taking into the account of population in India.One of the Greatest controversies is fake votes. There have been several reports that fake voters have been casted for the voters who were absent onthe voting. This incase have proved to be real when celebrities like Shivaji Ganesan, Siva Karthikeyan etc., have been reported that their vote has be castedby fake person. So many citizens have complained about this issue publicity to media during Assemblyelection, 2019. There has been a rule that those who complain that their vote has been taken by another person still the elector must to given permission to cast vote according to the section49-P. But this is not the case happened in 2019 Assembly elections. Many people who lost their vote have not provided any other chance.**

Keywords: Arduino, Voting Machine, RFID, Fingerprint sensor.

I. INTRODUCTION

In our system we have developed a two-tier verification system. This two-tier verification isdivided in two processes. The first process involvesin the verification of user's identity which is provided to him by the government, which may be his Aadhar identity or voter ID our idea is to make the identification card upon the RFID tag which is the basic component for one of our verification systems. This RFID tag is verified through RFID reader for first step of verification. In the second step of our verification, we are going to deal with the Biometric characteristic of the human body which is nothing but the fingerprint. That is the impressions taken from the ridge of the skin of the finger. This has been used as the form of identity for the person for over centuries in human history. By combining the previous two step of verificationwe provide an authentication system for allowing only the appropriate verified used to cast their vote. As we discussed earlier a major controversy in conduction elections in India is fake voter. Hence, we need a two-tier security for each vote in our country. Our System exactly designed to overcome this problem by making unique ID verification andbiometric verification for each voter. Our system will verify whether both data's are matching. If they do not match then our system will turn ON the buzzer to indicate that user data's does not match.

II. OBJECTIVE

The main objective of our paper is to reduce or completely avoid the fake votes in voting system of ourcountry. Our system exactly designed to overcome this problem by making unique RFID verification and biometric based verification for each voter. Our system will verify whether both the data are matching. If they donot match then our system will display that it doesn't match with each other.

III. LITERATURE SURVEY

[1] V. Kiruthika Priya, et al., presented Arduino based smart electronic voting machine with the help of IOTElectronics and Informatics (ICEI), which helps us tomake a vote with use of an Arduino and IOT with lesser security.

[2] Rahil Rezwan, et al., explained paper is about Biometrically secured electronic voting machine in the year 2017, has a high security by using the fingerprint verification helps to provide more securitythrough unique for everyone.

[3] Sunita Patil, et al., introduced Electronic smart voting system with secured data identification using cryptography in year 2018. This paper describes the Function of ESVS which is used with the biometric authentication system along with the OTP based on the verification process of voting system. The ESVS utilize the Aadhar number and identification of vote.

[4] Himanshu, et al., presented the Application for online voting system using android device introducedin the year 2018. It describes the descriptive pattern represent that the election should decide which candidate is capable for the future of the country. Thissystem has high level security, but the existing systemhas the flaw that the vote has to wait in queue for casting their vote has lesser security in the present time.

[5] Qasim Abbas, et al., discussed the Location free voting system with the help of IOT technology introduced in the year 2018. In this paper tells that Internet of Things (IOT) is becoming the faster which connect to the many things. Annalisa Franco presented the Fingerprint: Technologies

PUBLIC ANNOUNCEMENT SYSTEM USING ARDUINO

[1]R. Meghana, [2]P. V. Pavan Saketh, [3]T.Rohit Kumar, [4]P.Sankara Rao, [5]G.Durga Prasad,

[1,2,3,4]U.G Scholars, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P. India
[5]Assistant professor, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P. India.

ABSTRACT: ***In most of the institutes, announcements are coming under the major problem. A universal announcement by speakers is mostly deployed in most of the institutes, but there are cases when the announcement needs to be done for a particular classroom or for a particular person. In that case, such a universal system will not be helpful. One resolution of this problem most of the institutes adopt is deploying one universal system and a separate system for each room and then place people to handle the entire control system. Though this resolves many issues, it increases the cost of the entire control unit when you have to be dependent on human resources. Here we are also planning to broadcast an FM campus radio in our public announcement system. By utilizing this FM Radio students can make controlled and kept up by either students or the management.***
KEYWORDS: Universal Announcement, Automation, Communication, Human Resource, Workstation, Dimension, Broadcast, Thriving, Explore.

I. INTRODUCTION

An embedded system can be defined as a computing device that does a specific focused job. Appliances such as the air-conditioner, VCD player, DVD player, printer, fax machine, mobile phone etc. Are examples of embedded systems. Each of these appliances will have a processor and special hardware to meet the specific requirement of the application along with the embedded software that is executed by the processor for meeting that specific requirement. The embedded software is also called "firmware". The desktop/laptop computer is a general-purpose computer. You can use it for a variety of applications such as playing games, word processing, accounting, software development and soon. Embedded systems have very limited resources, particularly the memory. Generally, they do not have secondary storage devices such as the floppy disk. Embedded systems have to work against some deadlines. In some embedded systems, called real-time systems, the deadlines are stringent.

II. OBJECTIVE

The main objective of our paper is this system removes a delay in case of emergency or even when an urgent communication is to be made. The proposed system aims to connect the communication between an authorized people to the workstation, thereby ensuring good communication. To read announcements or states of emergency. To make two way communications through Intercom systems often used in schools, also have microphones in each room so that the occupants can reply to the central office.

III. LITERATURE SURVEY

R.Ross discussed that Railway stations are examples of large and noisy areas to which voice announcements are to be made and were one of the early users of amplification to produce public address systems. Changes to station staffing arrangements have led to the need to provide voice information to unstaffed stations. [1] This has resulted in the development of transmission and remote control systems that tandem link several stations specifically for this purpose [4].

Dr. H. Venkatesh Kumar, Pavan Kalyan B S, P Sai Kumar, Shiva Latha MS, Shreya.B, developed a Department Announcement System using Arduino, that can aim to communicate with HOD and students within the department and researched on the microcontrollers, relays, driver IC's, transmitters, receivers and radio frequency need to be filled and employed in many applications like educational institutes, organizations, traffic management [2].

Tsung-HsingLin, Liang-Bi Chen, Chung-Heng SYChuang, Tung-Lin Lee, Chaio-Hsuan Chuang , Yung-Chang Tseng, Chun-Long Chiu, Chih-Lin Hung , and Chao-Wen Wu.introduced amulti-functions digital public address system for campus broadcasting and security department of research and development, which is a complete all-in-one solution, it could also be connected to PSTN to make telephone broadcast for two-way intercom [3].

We have also researched on the various arduino board like UNO, MEGA etc. And their working.[5]

We have also studied about the digital announcement and how it works.[6]

IV.IMPLEMENTATION

The user selects the particular class to deliver message, a microphone audio input device can be used to create live announcements. The audio input devices are connected to the central control system and can be used to create and broadcast live announcements in real time. The central control system is main component of the announcement system and it is responsible for managing flow of information. It is equipped with programmed arduino and switches to create, select and manage announcements of class rooms. Speakers are placed in various locations such as classrooms, laboratory, and common areas, to ensure that the announcements can be heard by entire department. The Arduino Integrated Development Environment is a cross-platform application written in Java, and is derived from the IDE for the Processing programming language and the Wiring projects. It includes a code editor with features such as syntax high-lighting, braces matching and automatic indentation, and is also capable of compiling and uploading programs to the board with a single click. A program or code written for Arduino is called a "sketch". Arduino programs are written in C or C++. The Arduino runs a simplified version of the C programming language, with some extensions for accessing the hardware. In this guide, we will cover the subset of the programming language that is most useful to the novice Arduino designer. The board can hold a program hundreds of lines long and has space for about 1,000 two-byte variables. Even though there are many

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 12 Issue 03, March-2023

Smart Blind Stick

[1]S. Sharmila,[2]P. Sai Teja,[3]P. Shanmukh Sagar Kumar,[4]Y. Bhaskara Rao,[5]S. Venkata Ramanaji Kalla,
[1,2,3,4]U.G Scholars, Department of ECE, N S Raju Institute of Technology, Sontyam,Visakhapatnam, A.P., India
[5]Assistant professor, Department of ECE, NS Raju Institute of Technology, Sontyam,Visakhapatnam, A.P., India.

Abstract: **The Blindness is a very common disability among the peoples throughout the world. According to the World Health Organization (WHO) 285 million people are visually impaired worldwide, 39 million are blind and 246 have low vision. About 90% of the world's visually impaired live in developing countries. In normal stick, the detection of the obstacle is not done and normal stick is not efficient for visually impaired persons. Hence, we Proposed the innovative stick called smart blind stick. We achieve this by using a few sensors and Modules. The stick, with the help of an Ultrasonic sensor and IR sensor detects the obstacle the blind person is approaching. Also, Water sensor is used to detect the water and gives the signalling by vibrating with the help of vibration motor and also provides sound by using buzzer. We take the benefits of GPS module and GSM module, where GPS module helps to trace the blind person using the data collected by it. In case of dangerous circumstances, the SOS button is integrated on a stick if a blind person can just click on the SOS button, then the person whose phone number has been saved is notified that the blind person is at risk, along with the current location of the blind person. All these features are beneficial in lending a hand to make the visually impaired people become self-reliant while navigating.**

Keywords: Smart Blind Stick, Sensors, GSM, Microcontroller, GPS, SOS button.

I. INTRODUCTION

An embedded system can be defined as a computing device that does a specific focused job. Appliances such as the air-conditioner, VCD player, DVD player, printer, fax machine, mobile phone etc. are examples of embedded systems. Each of these appliances will have a processor and special hardware to meet the specific requirement of the application along with the embedded software that is executed by the processor for meeting that specific requirement. The embedded software is also called "firm ware". The desktop/laptop computer is a general-purpose computer. You can use it for a variety of applications such as playing games, word processing, accounting, software development and so on.

II. OBJECTIVE

The main objective of our project is to provide smart sticks that can avoid obstacles and provide navigation to visually impaired people GPS so that they can move independently in unfamiliar environments.

III. LITERATURE SURVEY

This is a study of the relevant literature on a given topic. In order to understand the development of a Smart blind stick, we need to look at the existing technology. A brief study and survey were conducted to understand various problems related to the project, among blind people who have difficulty in walking on the street.

Here are some literature references "Intelligent walking stick for the visually impaired "[1], "Implementation of a smart cane for obstacle detection, Detection and Navigation."[2]. "An electronic walking stick for the blind" [3], "Advanced cane for the blind for visually impaired people" [4], "The prevalence and causes of visual impairment and blindness among older adults in the city of Lodz, Poland."[5].

For the improvement and safety of the blind society, a variety of electronic tools and different technologies have been used to guide them through the detection of obstacles on the ground, uneven surfaces, holes, steps, and puddles.

IV. IMPLEMENTATION

In our prototype, we build this smart blind stick using Arduino UNO. It is used to control all the sensors and modules (GSM & GPS). The blind stick is integrated with ultrasonic sensor along with IR and water sensor. Our proposed project first uses ultrasonic sensor to detect obstacles ahead using ultrasonic waves. IR sensor is mounted at the bottom of the stick helps in detecting the stair case ahead using infrared waves. Water sensor is mounted at the bottom of the stick helps in detecting the water on surface of the floor. These three sensors detect and gives signaling through vibration motor and buzzer. GPS module helps to trace the blind person using the data collected by it. The SOS button is integrated on a stick if a blind person can just click on the SOS button, then the person whose phone number has been saved in the code memory get notified that the blind person is at risk, along with the current location of the blind person with the help of GSM Module. The Power Supply should be given to Arduino and GSM Module through adapters.

Fig 1: Block Diagram

IJNRD.ORG ISSN : 2456-4184
INTERNATIONAL JOURNAL OF NOVEL RESEARCH AND DEVELOPMENT (IJNRD) | IJNRD.ORG
An International Open Access, Peer-reviewed, Refereed Journal

SILENT SOUND TECHNOLOGY

[1]CH. Meghams,[2]M. Mounika,[3]M. Tejesh,[4]Yelithoti Sravana Kumar,

[1,2,3]U. G Scholars, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India

[4]Assistant professor, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, AP, India.

ABSTRACT: ***Without using real audio, silent sound technology uses visual interpretation of lip, mouth, and face movement to comprehend words or speech. This job is challenging because different dictions and speech articulations are used by different people. Keeping this in mind, this project demonstrates the effectiveness of machine learning by developing an automatic lip-reading system using deep learning and neural networks. Two different CNN models were trained on a portion of the dataset. Based on how well the taught silent sound Technology models predicted words using DL, they were assessed. A web application for real-time word prediction used the top performing algorithm. Based on this precision, this can be applied further and in many more uses.***

KEYWORDS: Convolution Neural Network (CNN), Deep Learning (DL), Image Processing, Silent Sound.

I. INTRODUCTION

Silent sound Technology is a recent topic which has been a problematic concern to even expert lip readers. There is a scope for silent sound Technology to be resolved using various methods of machine learning. Silent sound Technology is a skill with salient benefits. Enhancement in silent sound Technology technology increases the possibility to allow better speech recognition in noisy or loud environments. A prominent benefit would be developments in hearing aid systems for people with hearing disabilities. Similarly, for security purposes, a silent sound Technology system can be applied for speech analysis to determine and predict information from the speaker when the audio is corrupted or absent in the video **[1].**

With the variety of languages spoken around the world, the difference in diction and relative articulation of words and phrases. It becomes substantially challenging to create a computer program that automatically and accurately reads the spoken words solely based on the visual lip movement of the speaker. Even the expert lip readers are only able to estimate about every second word **[3].** Thus, utilizing the capabilities of neural networks and deep learning algorithms two architectures were trained and evaluated. Based on the evaluation, the better performing model was further customized to enhanced accuracy. The model architecture with an overall better accuracy was implemented in a web application to devise a Realtime lip-reading system.

II. OBJECTIVE

The main objective of our paper is to help the people who are unable to speak but wish to speak and also help the people to talk the people in mobile phones who are in the crowd.

III. LITERATURE SURVEY

Alex Krizhevsky, Ilya Sutskever, and Geoffrey E. Hinton. 2012. ImageNet Classification with Deep Convolutional Neural Networks. In Proceedings of the 25th International Conference on Neural Information Processing Systems - Volume 1 (NIPS'12). Curran Associates Inc., USA, 10971105 [1].

Ahmad BA Hassanat. 2011. Visual Speech Recognition, Speech and Language Technologies, Prof. Ivo Ipsic (Ed.), ISBN: 978-953-307-322-4, InTech [2].

Abiel Gutierrez, their best model was the Fine-Tuned VGG+LSTM baseline. Data augmentation proved to be helpful only in instance of unseen people. Their baseline outperforms LSTM+CNN architecture. They achieved validation accuracy very close to 75% and test accuracy of 59% [3].

End to End Sentence Level Silent Sound Technology Yannis M Assael, 2016 Their model Lipnet achieved

Detection Of Currency Notes for Blind

[1]V. Satyanarayana Raju,[2]V. Mounika,[3]P. Ganesh,
[4]V. Latha, [5]K. Rajasekhar

[1,2,3,4]U.G Scholars, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P. India
[5]Assistant professor, Department of ECE, NS Raju Institute of Technology, Sontyam, Visakhapatnam, A.P. India.

Abstract: Currency is basic need for everyone and its recognition is a simple and straightforward task for normal human beings, but if we consider the visually challenged people currency recognition is a quite a challenging task even if there are some engraved markings on side of the notes. So to recognize a currency note the person must learn to interpret the cues to differentiate the denominations of the currency. Even the use of digital currencies are increasing rapidly physical notes can be the best and easy option for blind in their daily basis. This brings to the need for currency recognition systems. More than this the life the blind people lead must be as independent as possible.

Keywords: Embedded systems, Visually disabled Raspberry Pi, Currency recognition, Currency denomination, Image processing, Image comparison, Machine learning, Image capturing .

I. INTRODUCTION

The Research work in the banking Sector is evolving exponentially. This modern technology world has wide requirement of currency recognition system. It can be used for assisting blind people, monitoring currency system, currency exchanges etc. According to the statistics India is a home to 9.3 million visually impaired and 2,70,000 bling children, with more than 25% of that figure are not preventable or treatable. One of the main problems resist by people with visual impaired is the incapacity to identify the paper currencies due to the approximation of paper texture and size between the different currencies So, there is a need to design a system that detects the denomination of currencies and in easy way.

II. OBJECTIVE

The main objective of this project is to build a system which detects currency notes denominations using Machine learning, Train the system to give accuracy as high as possible. By this blind people can know the currency notes they are holding with ease. And also, the system must be portable easily.

III. LITERATURE SURVEY

According to research [1], the author proposed an Android paper currency recognition system that applied to Saudi Arabian papers. Recognizing paper currency methods that relies on some features and correlations between two currency Images. Defined an efficient and fast algorithm for differentiating multiple national bank currencies depends on size information and correlation matching of multiple templates. As different bank currencies have different sizes so this information was regarded to be a vital feature. This method was tested using 55 currencies of 30 different classes from five countries like EUR, RUB, USD.so, results of this method is 100%.

In [2], the author recognizes and classifies four different kinds of currencies through computer vision. The typical Accuracy rate was 93.84%.

According to research in [3], authors have introduced an unsupervised algorithm for segmentation of synthetic aperture radar images which is rely on fuzzy clustering approach to beat the high time complexity of rich-performance clustering algorithms which analyse all pixels for image segmentation. Their algorithm selects a subset of key pixels supported by the rule of local extrema and performs segmentation on those.

The analysis in [4] gives a dataset for the evaluation of change point detection algorithms which consist of 37 time series from different domains. By analysing the consistency of human annotations, the dataset describes evaluation metrics for measuring the performance of algorithms.

Research in [5] proposes a system for recognizing fake currency notes of Indian currency. The system verifies the real images on the premise of image processing by extraction of security measures of Indian currency notes.

IV. IMPLEMENTATION

The Raspberry Pi is a series of credit card–sized single-board computers developed in England, and the camera consists of a small (25mm by 20mm by 9mm) circuit board, which connects to the Raspberry Pi's Camera . This model has two phases ,hardware phase and software phase .

In software phase a programming language is selected and training of dataset is done. When the code is ready it is dumped into the raspberry pi memory . In hardware phase the camera and speakers are interfaced with raspberry pi . When inputs are given , as the code contains all the instructions and commands for all the components in the circuit output will be generated as required.

IJNRD.ORG ISSN : 2456-4184
INTERNATIONAL JOURNAL OF NOVEL RESEARCH AND DEVELOPMENT (IJNRD) | IJNRD.ORG
An International Open Access, Peer-reviewed, Refereed Journal

CNC PCB DESIGN PLOTTER INCLUDING WOODENGRAVING MACHINE USING ARDUINO

[1]N. Chandra Shekhar,[2]Y. Surya Vamsi,[3]R. Sowjanya,[4]R. Ranjith, [5]A. Gowthami Naidu,

[1,2,3,4]U. G Scholars, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P. India

[5]Assistant professor, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P. India.

ABSTRCT: ***The use of the CNC machine, which was first introduced in the late 1970s, has significantly improved over time. The CNC PCB Milling and Wood Engraving Machine combines the design and operation of a CNC machine to produce a PCB and a wood etching machine in one machine. When manufacturing testing circuits is taken into consideration, the production of PCBs is extremely expensive in the current market. The purpose of developing this CNC machine was to cut costs. A PCB mill is a device that makes Printed Circuit Boards by engraving information from a Gerber file onto a copper-clad board. The program is either loaded into the memory of a computer system or is already present in a CNC machine. The user can easily create the codes and modify the projects to meet their needs. There is no need to repeat these projects because they can be used for a variety of parts. The CNC machine has greater computational and adaptability capabilities. The program, which is essentially G-code, for cutting the metal from the job in accordance with the given specifications is present in the CNC machine. The CNC machine must be supported by a program that tells it to follow all of your instructions. The following are examples of normal machine devices that can continue to function on the CNC: Milling, Drill press, and Plotting.***

KEYWORDS: CNC, PCB Mill, G-code, 2D plotter, Arduino platform, CNC shield, Motor Driver, Inscape software.

I. INTRODUCTION

With many objects getting smaller and thinner and the development of high technology and manufacturing expanding quickly, the world has become high technology. All of those things are possible with the use of computer-controlled machinery, such as CNC machines. A sophisticated type of soft automation designed to regulate the movement and use of machine tools is computer numerical control. The numerical control machine, which employs a manufacturing machine that uses the coded format, numbers, and letters, was created around the 19th (1940s-1950s) century to reduce workload. Technology is being used in teaching on a daily basis. The expense of using modern technologies is very significant, though. Computers have become softer, and the interface between hardware and software is now more readily available.

II. OBJECTIVE

The primary goal of this undertaking is to construct and plan an electromechanical gadget ready to make consistent or broken vector illustrations on a solid surface and to limit the expense of assembling. Additionally, a user-friendly Human Machine Interface

Published by :
http://www.ijert.org

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 12 Issue 03, March-2023

Automated Ventilator with Heartrate and SpO2 Monitoring

[1]J. Vishal, [2]S. Anil, [3]Y.J. Nageswara Rao, [4]P. Mohan Rao, [5]M.V.S. Roja Ramani,
[1,2,3,4]U.G Scholars, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P, India
[5]Assistant professor, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P, India.

Abstract: ***As we all witnessed COVID-19 pandemic all over the world the*** **virus that causes COVID-19, gets in the human body, it comes into contact with the mucous membranes that line our nose, mouth, and eyes, and infects the upper or lower part of respiratory tract. As a result, the respiratory tract and lungs swells, become irritated and inflamed. For those who develop trouble breathing, medical care outside of the home is needed. The seriously ill patients suffering from COVID-19 need respiratory support, as their lungs get damaged by the coronavirus leading to breathing difficulties. Ventilators are needed in such cases for supplying adequate oxygen into their lungs and also removing the carbon dioxide, as a lifesaving supportive measure. The ventilators are one of the most vital medical devices needed to keep these critically ill COVID-19 patients alive. The ventilator we design and develop using Arduino encompasses all these requirements to develop a reliable yet affordable ventilator to help in times of pandemic. Also, it monitors the body temperature. We use toggle switch for switching and a variable pot to adjust the breath length and the BPM value for the patient. Our system makes use of blood oxygen sensor to monitor the necessary vitals of the patient and display on a mini screen.**

Keywords: COVID-19 pandemic, trouble breathing, ventilator, Arduino, body temperature, breath length, BPM value.

I. INTRODUCTION

There is an increase in air pollution which resulting in various respiratory diseases. Some of the respiratory diseases patients require the instant support of ventilator and also there has been a drastic increase in the number of patients struck by COVID-19 pandemic in the hospitals and ICUs worldwide. However, sufficient ventilators are not available in the hospitals at present. An influential report from Imperial College London estimates that 30% of patients admitted in hospitals due to COVID-19 are expected to need the mechanical ventilation. According to the WHO, one in six COVID-19 patients has significant difficulty in breathing and may require ventilator support. However, the patients who require ventilator support have low survival rates of 20% because many of these infected patients (40%) develop acute respiratory distress syndrome (ARDS), which has a high mortality[1].

II. OBJECTIVE

The main objective of our paper is to make an low cost ventilator with heart rate, SPO2 levels and temperature monitoring. It can be useful for the patients, who are suffering with breathing problems and it can be helpful in emergency situations. The patients can check their temperature, heart rate and SpO2 levels without consulting any doctor.

III. LITERATURE SURVEY

Rouf-ul-Aalam, Afshan Amin Khan, Dr Liyaqat Nazir proposed a design of a ventilator which can be easily manufactured and integrated into the hospital environment to support COVID-19 patients. The proposed ventilator essentially uses electronically controlled mechanical ventilation that is achieved by precise calculated periodic compression and expansion of a readily available ambulatory bag [1].

Muhammad Jawad Ghafoor, Mustafa Naseem designing the robustness and functionalities of ventilator which is not only easily transferable as well as it is very low cost and economics friendly. It is designed under the basic idea of being incorporated in huge human catastrophes in poorly resources enriched environments. Ventilator under the proposed design was being developed with wooden pieces with a weight of 6 kg and has a volume of 14 × 7 × 9 inches. It functions without human operator as it delivers breaths through the compression of an orthodox bag valve mask [2].

Ryan M. Corey, Member IEEE; Evan M. Widloski, Student Member IEEE proposed sensor and alarm system can improve the functionality of pressure-cycled emergency ventilators. While it is not as robust as a full-featured commercial ventilator system, it provides critical monitoring features that are not available on purely mechanical ventilators. The recursive envelope-tracking algorithm allows the system to track breathing, estimate metrics and detect malfunctions with only a few calculations per sample and a tiny memory footprint. Therefore, the system can be built quickly using nearly any low-cost microcontroller and a few other electronic components [3].

IV. IMPLEMENTATION

The ventilator can be implemented by using Arduino and Node MCU. The Arduino uno is an open-source microcontroller board. The board is equipped with sets of digital and Analog input/output pins that may be interfaced to various expansion boards and other circuit, and is programmable with the Arduino IDE (Integrated Development Environment). Node MCU is an open-source firmware for which open source prototyping board designs are available. The name "Node MCU is a combination of “Node” and “MCU” (microcontroller unit). Both the firmware and prototyping board designs are open source. The firmware uses the Lua scripting language. The firmware is based on the Lua project, and built on the Espressif Non-

VOICE CONTROLLED PICK AND PLACE ROBOT

[1]S. Karthik Teja, [2]B. Aparna, [3]P. Sanju Vara Prasad, [4]P. Prem,[5]B. Ravi Chandra

[1,2,3,4] U.G. Scholars, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P. India.

[5] Assistant Professor, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P. India.

ABSTRACT: ***A rescue robot is a robot that has been designed for the purpose of aiding most rescue teams. In most of common circumstances that skill-rescue robots are mining fortunes, urban ruins, and imprisoned situations, blasts. This robot will help us in these situations by helping humans. The major objective of this project is to control the robot by using voice commands and to use it in disaster regions. It is aimed for the users to control a Pick and place devices through voice commands. Here, the user can control all the movements of the robot through voice commands to remove the objects in disaster regions. It uses a microphone to convert the given voice. commands to electrical signals, and this signal is recognized using voice recognition by means of a voice sensor. This sensor is known as the VR Module. It will produce an output which is used by a controller to produce a control output. This output will drive the motor, and robotic action will take place. It consists of L293D IC, which will as a driving mechanism of the pick-and-place robot. Also, it has a servomotor that helps with the movement of the arms. The Two micro servos are used in gripping the objects at a distance. The VR module is used here to recognize the voice and give the output to the microcontroller. If the signal is the same as that of the trained signal on the keypad, the Servos will work according to it.***

Keywords – AT mega 328, L293D,Radio Frequency

I. INTRODUCTION

Robotics is advancing rapidly in all areas. Presently, various industries are moving from automation to robotization to increase productivity and also deliver uniform quality. Currently, everyone finds substitutes. for himself to carry out his orders and to work in a hostile environment. Robots and robot-like manipulators are now commonly used in hostile environments, such as at various places like atomic plants, chemical plants, bomb detection areas, etc. One type of commonly used manipulator in industries for various applications is the robotic arm, also known as a robotic manipulator. Now a days, robots are having wide applications in various fields. In many industries, robots are used to perform different functions. Robots are more accurate and efficient as compared to human beings. The use of robots in industries can increase the quality of products and their production rates. As compare to earlier days, today robots are used in various areas such Amede fence, ands defense medical fields, in industries, etc. Many areas of the world are affected by natural calamities. Disasters are exceptional, unstoppable events that are either man-made or natural. A voice-controlled robot is an interesting project, mainly used for industrial and surveillance applications. This is a system that will act automatically. when the voice command is reached. These voice commands should ensure the various operations that are to be performed. Our project is aimed at demonstrating the workings of a pick and place device using voice commands at calamity affecting regions.

II. LITERATURE REIVEW

This proposed system was finalized after checking out various references given and the implementations with methodologies was also discussed. Past ten years of reference papers was used for it. The detailed report on these references are given below,

Sotiris Stavridis, Pietro Falco, Zoe Doulgeri, ”Pick-and place in dynamic environments with a mobile dual-arm robot equipped with distributed distance sensors”, Mobile bimanual manipulation in an exceedingly dynamic and unsure environment requires the continual and fast adjustment of the robot motion for the satisfaction of the constraints imposed by the task, the robot itself, and also the environment. We formulate the pick-and-place task as a

IJNRD.ORG ISSN : 2456-4184
INTERNATIONAL JOURNAL OF NOVEL RESEARCH AND DEVELOPMENT (IJNRD) | IJNRD.ORG
An International Open Access, Peer-reviewed, Refereed Journal

SELF DRIVING CAR USING LIDAR

[1]N. Sai Kumar,[2]N. Sai Naga Bhargav,[3]V. Kalyani,[4]T. Uday Kiran, [5]K. Ravi Kumar,

[1,2,3,4]U. G Scholars, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P. India

[5]professor, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P. India.

ABSTRACT: ***One advancing technology that has been impossible to ignore lately has been the work with self-driving vehicles. These vehicles have gone from scientific curiosity to mainstream within a few short years and soon we'll be seeing them as regular traffic on our streets. A very distinctive component in a self-driving vehicle is the spinning LIDAR sensor mounted on the top of the vehicle. This is one of the principal components in self-driving vehicles as it collects data regarding the surrounding area to allow the navigation systems to guide the vehicle safely. One advancing technology that has been impossible to ignore lately has been the work with self-driving vehicles. These vehicles have gone from scientific curiosity to mainstream within a few short years and soon we will be seeing them as regular traffic on our streets. since 94% of the accidents are due to human error. Autonomous vehicles do not drink alcohol nor take drugs, they are never tired or sick, they never take medicines, they never lose their concentration or talk by phone, they know how to drive since the first moment and don't need to learn, they never act recklessly when driving. On the other hand, they will drive much more smoothly, they will pollute less and, if they have an accident, they will ask for help autonomously.***

KEYWORDS: LiDAR, Arduino UNO, Easy navigation, Robotic movements, Autonomously, Robot, Power Supply, Battery, Switches.

I. INTRODUCTION

Lidar is sensor technology used in self-driving car, which gives three-dimensional information about the surrounding environment and also provides higher resolution. LiDAR can make out the position of people and attempts to stop around the vehicle and put value on the speed and way at which they are moving. Taking assistance of this news given, on-board knowledge processing machine system can come to a decision about

the best and safest way for a self-driving vehicle to private road to its destination. To accomplish this LiDAR technology use lidar sensor. Lidar sensor consist of main four parts: Lasers, Scanners, Photo detector receivers, GPS positioning/navigation systems. The optical pulse is emitted through leaser and transmitted towards the object. The scanner scans the distance of targeted object (using a speed of light). Depending on the fact presented by sensor the computer system can determine safest path for self-driving car to reach to its correct destination. Lidar can make out the position of people and attempts to stop around the vehicle to work out the needed speed and the footway at which they are moving.

II. OBJECTIVE

Self-driving cars help reduce the pollution emitted by vehicles. Autonomous capabilities such as consistent driving speeds and keeping a measured distance between vehicles can reduce unnecessary breaking and re-acceleration. Electronic models of self-driving cars with an electric or hybrid engine further reduce pollution by eliminating or lessening the use of fuel. Road accidents result in 1.25 million deaths and 20-50 million injuries worldwide. If nothing changes, road traffic injuries may

Published by :
http://www.ijert.org

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 12 Issue 03, March-2023

Detection of Subclinical Keratoconus using Machine Learning Algorithms

[1]T.Sravan Kumar, [2]P.Hemanth, [3]Sk.Nawaz Shareef, [4]S.Preethi, [5]B.Siva Prasad.
[1,2,3,4]U. G Scholars, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P. India
[5]Associate Professor, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P. India

Abstract: **A non-inflammatory corneal condition called keratoconus frequently affects both eyes. Due to corneal deformation and scarring, the bilateral ecstatic illness known as keratoconus can impair vision. The prevalence of keratoconus varies from 1 in 375 people in Northern Europe to as high as 1in 48 in various ethnic groups. Studies indicate a higher incidence and faster advancement in Middle-Eastern, West Indian, and Asian populations. The disease normally starts after puberty and progresses over the following two to three decades at a varied rate.As the condition worsens, corneal distortion may become so severe that patients will no longer be able to see well enough to function without the use of soft or hard contact lenses. Contact lenses are not always well-tolerated, and vision loss can significantly lower quality of life. About 20% of patients are given the option of a corneal transplant during the course of the disease to help them see better, but doing so carries the risk of postoperative complications including microbial keratitis and inflammation, probable allograft rejection, and transplant failure. The majority of people with keratoconus are found to havevisual disturbances or an increase in refractiveastigmatism.**

Keywords: Microbial keratitis and inflammation, Probable allograft rejection, Transplant failure, Contact lenses, astigmatism.

I. INTRODUCTION

Keratoconus is a non-inflammatory corneal disorder which often affects both eyes. Keratoconus is a bilateral ecstatic disease of the cornea that can cause visual loss through corneal distortion and scarring. The prevalence of keratoconus varies from 1 in 375 people in Northern Europe to as high as 1 in 48 in some ethnic groups, with studies suggesting a higher incidence in Middle-Eastern, West Indian, and Asian populations with faster progression. The onset of the disease typically occurs after puberty, with subsequent progression at a variable rate over 2 to 3 decades.

As the disease advances, corneal distortion can reach a stage where spectacle-corrected vision is inadequate, and patients must rely on soft or rigid contact lenses to achieve good functional vision. However, contact lenses are not always tolerated, and visual impairment can severely affect quality of life. In the natural course of the disease, approximately 20% of the patients are offered a corneal transplant to improve their vision but at the risk of postoperative complications (eg, microbial keratitis and inflammation), potential allograft rejection, and transplant failure. Most individuals with keratoconus are identified because of the symptoms of visual disturbance or an increase in astigmatism at refraction. Therefore, it is inevitable that most individuals with keratoconus are detected at a stage when visual deterioration has already occurred.

The detection of keratoconus at an earlier stage has become increasingly relevant since the introduction of corneal collagen cross-linking (CXL). This is a photochemical treatment of the cornea with UV-A light following the application of riboflavin (vitamin B2), which can arrest the progression of keratoconus in 98.3% of the eyes even in relatively advanced cases

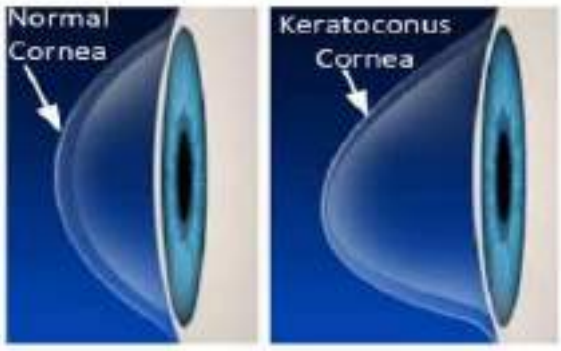

Figure 1: Normal Cornea Versus a Cornea Affected by Keratoconus

II. LITERATURE REVIEW

Hallett et al. proposed a deep learning-based unsupervised and semi-supervised classification model to identify keratoconus at an early stage with the aim of providing clinicians ample time to select an appropriate treatment [1]. They achieved an accuracy level of 80.3% using 124 keratoconus eyes. However, their small sample size may limit generalization of their findings. In [2], a logistic regression statistical model was used to detect early-stage keratoconus cases. However, the only corneal parameter used in this study was auto-keratometer. In [3], the authors have proposed a classification technique using cornea shapedata obtained from OCT-based instruments and obtained an accuracy level of 92% using 244 eyes. However, there is no information on the severity level of the keratoconus eyes and whether the eyes at the early stages of keratoconus were included. Moreover, this study used a relatively small sample. Machine learning has also been applied in keratoconus management with regard to guiding intra-corneal ring segment implantation [4]. This is promising and shows that AI models can be applied to different aspects of keratoconus management to enhance care delivery.

A short review of several machine learning techniques for detecting keratoconus has recently been published [5]. In addition, the role and importance of the development of artificial intelligence (AI) algorithms in prevention and monitoring keratoconus was recently highlighted [6]. As of

NOVEL PLACEMENT OF SERPENTINE SPRING TO REDUCE PULL-IN VOLTAGE OF A MEMS BASED SWITCH

P. Rohit Nair[1], S. Gowtham[2], T. Avinash[3], Y. Saranya[4], Vijay Kumar[5], Virender Singh[6]*

Article History: **Received: 20.04.2023** **Revised: 26.05.2023** **Accepted: 13.06.2023**

Abstract:
In this work, a MEMS based capacitive switch is designed and analyzed for reduced pull-in voltage. The major flexures like cantilever and clamped-clamped structures are studied and it is found that serpentine spring produces lowest spring constant and therefore it is utilized in the design to make spring loaded proof mass. The designed switch consists of serpentine spring and proof mass to allow the displacement required for the electrostatic actuation. In the bottom of the proof-mass an air gap of five micrometer is kept a dielectric layer of thickness three micrometer is deposited and finally a metal layer of gold is deposited as a ground line. The material used for the proof mass is polysilicon. The variation in the Pull-in voltage is studied by changing dielectric layer thickness and with other dielectric materials also. The switch is simulated based on the FEM method to validate the design in terms of numerical simulations. The pull-in voltage and figure of merit is calculated theoretically and the compared with the simulated results. The simulation results ae in line with the analytical results.

Keywords: MEMS, FEM.

[1,2,3,4,6]*NS Raju Institute of Technology, Visakhapatnam-531173, India. [6]Email: nain_virender@yahoo.com
[5]Terminal Ballistic Research Laboratory, DRDO, Sector 30, Chandigarh-160030, India

***Corresponding Author:** Virender Singh
*NS Raju Institute of Technology, Visakhapatnam-531173, India. Email: nain_virender@yahoo.com

DOI: 10.48047/ecb/2023.12.si5a.0530

Journal of Data Acquisition and Processing
ISSN: 1004-9037
https://sjcjycl.cn/
DOI: 10.5281/zenodo.777338

DESIGN AND IMPLEMENTATION OFONE-BITALU USING REVERSIBLE LOGIC

[1]G. Lakshmi,[2] B.V. Niharika, [3]E.H.S. Vyshnavi, [4]CH.Lakshmi Prasanna, [5]Virender Singh

[1,2,3,4] U. G Scholars, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P. India.

[5]Assistant professor, Department of ECE, N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P. India.

[1] 20nu5a0407@nsrit.edu.in, [2] 20nu5a0401@nsrit.edu.in, [3] 19nu1a0414@nsrit.edu.in, [4]20nu5a0404@nsrit.edu.in, [5]nain_virender@yahoo.com

ABSTRACT: This paper presents a novel design of reversible logic based Arithmetic Logic Unit (ALU) which is efficient in comparison to the irreversible design in terms of power and area. In reversible logic design each input is mapped to a particular output therefore each output is known which prevent bit loss and reduces the power dissipation. The design ALU is simulated using Xilinx 2019.1 for logical verification. Further the design is synthesized and power comparison is done for both the reversible and irreversible ALU. It is observed that dynamic logic power is reduced by 53% and area by 20%.

KEYWORDS—Reversible logic, garbage output, dynamic power.

Introduction:

For the applicability of the Moore's Law in the upcoming decades need new design technologies which necessitates to address the power dissipation problems in the CMOS based integrated circuits. Reversible logic synthesis is one of the promising technologies which address the power dissipation issue and theoretically claim that dynamic dissipation power can be reduced to 100 percent. Landauer in 1960 published in the IBM journal that using irreversible gates KT ln 2 energy is dissipated for one bit loss [1]. Later on, Bennett shows that if we use reversible logic gates with equal number of input and output where each output is produced by a known combination of the inputs therefore one bit loss can be avoided [2]. ALU is one the most important combinational logic circuits utilized for the arithmetic and logical computations in the computers. For extensive logic computation power dissipation in these types of circuits is a very dominating concern. Therefore, it is a focused area of research to reduce power dissipation in the ALU logic circuits. Reversible logic based ALU can solve this problem to a larger extent by significantly reducing dynamic power dissipation. In past few years a few articles have been published for reversible based ALU and the optimizing parameters are area and power. The limiting factor in the reversible design are ancilla inputs, garbage outputs and area [3-7]. Reversible logic based three variants of the adders is presented by P.K. Lala et.al.[8]. The designed reversible circuits are improved in terms of gate count and power dissipation. Binary reversible logic gates with quantum gates are proposed by Majid Mohammadi et.al.[9] A quantum cost efficient is presented by Rahman et. al. which proposed a two-qubit quantum gate library [10]. The current work reports one bit arithmetic and one bit

Journal of Data Acquisition and Processing
ISSN: 1004-9037
https://sjcjycl.cn/
DOI: 10.5281/zenodo.776844

DESIGN OF FREQUENCYRECONFIGURABLE SWASTIK PATCH ANTENNA FOR 5G &SATELITE COMMUNICATION

[1]B. Siva Prasad, [2]P.S.V.V. Manikanta, [3]K. Gowthami, [4]R. Asha Deepika, [5]G.D. Vara Prasad,
[1]Associate Professor,[2,3,4,5]U.G. Scholar, Department of ECE
N S Raju Institute of Technology, Sontyam, Visakhapatnam, A.P., India.

Abstract: The key components in modern-day wireless links applications such as cognitive radio, Reconfigurable antennas play a vital role. Rapid growth in the 5G and satellite communication has received much interests based on the requirements like compact size of communication devices. An adjustable frequency microstrip patch antenna in the shape of a Swastik is described in this paper.The proposed design Rogers-4003 substrate ($\in r = 3.38$, $\tan \delta = 0.0027$) dimensions of 30*30*1.6 has a Swastik shaped patch to cover the frequency of 19 GHz to 25 GHz. The antenna has a property that causes its frequency to change, which causes its characteristics to change depending on the state of diodes positioned above and below the design's centre. According to the simulated findings, the resonating band's return loss is less than -10dB, and the VSWR is between 1-2.

Keywords — Microstrip patchAntenna, Swastik patch, microwaves, reconfigurable, PIN Diode.

I.INTRODUCTION

From the fast few years, Demand for miniaturised antennas has raised interests of research work on compact microstrip designs among the microwave and wireless communications.As a result of the development of this new UWB technology, interest in creating wideband antennas has grown. These antennas offer fast data speeds due to the short length of UWB pulses and are ideal for short-range applications due to their low emission levels [1].PIN diodes are utilised in this article to achieve frequency reconfigurability. PIN diodes have the advantages of great power handling capacity, extremely low driving voltage, and inexpensive cost. Here, the type of switch and the antenna's topology determine the switch's location and control/biasing tactics. The antenna resonance properties were impacted by the DC wires placed close to the radiating elements [2].In order to support high mobility required devices like telecom devices, short & light weight antennas are preferred. For this, Microstrip antennas are one of the most suitable applications [3].The main benefit of the different-shaped microstrip patch antennas is that they make it possible to design patches in a variety of shapes for a broad range of frequencies, including square, rectangle, ring, disc, triangle, elliptic, and pentagonal. [4]. The radiating element of the proposed antenna consists of Swastika symbol slot operating at k and Ka bands [4]. the slots created in the ground plane enables the antenna resonates at eleven resonating frequencies by placing six diodes in the slots. The switching configurations of the diodes enables the reconfigurability [5]. Reconfigurable antennas address a large number of complex systems requirements by varying the parameters of the antenna like geometry and electrical

Carry Select Adder Using Binary Excess-1 Converter and Ripple Carry Adder

S. Arunakumari, K. Rajasekahr, S. Sunithamani, and D. Suresh Kumar

Abstract Many processor architectures, such as digital signal processors and microprocessors, rely on arithmetic circuits. The efficient implementation and design of arithmetic units necessitates the creation of binary adder structures in a similar manner. A ripple carry adder has a tiny surface area yet is slower. Carry propagation is also one of the reasons why the total for each bit is generated sequentially after the preceding carry arrives. The primary idea behind this study is to replace the RCA in a normal CSLA with a binary to excess-1 converter (BEC) to achieve high speed, area efficiency, and low power consumption. The following architectures are implemented using Verilog HDL as a programming language, and their simulation results are also shown.

Keywords Binary to excess-1 converters (BEC) · Carry select adder (CSLA)

1 Introduction

The large chip designing became easy by this complex chip design is implemented easily only by using VLSI systems. By this, major work was done easily in the limited amount of time so it is most efficient and fast way of implementation of chip design.

S. Arunakumari
Department of ECE, Raghu Institute of Technology, Visakhapatnam, Andhra Pradesh, India

K. Rajasekahr (✉)
Department of ECE, N S Raju Institute of Technology (Autonomous), Sontyam, Andhra Pradesh, India
e-mail: rajasekhar.ece@nsrit.edu.in

S. Sunithamani
Department of ECE, Koneru Lakshmaiah Education Foundation, Vaddeswaram, Guntur, Andhra Pradesh, India
e-mail: suresh4237@lendi.org

D. Suresh Kumar
Department of ECE, Lendi Institute of Engineering and Technology, Jonnada, Andhra Pradesh, India

T. R. Lenka et al. (eds.), *Micro and Nanoelectronics Devices, Circuits and Systems*,
Lecture Notes in Electrical Engineering 904,
https://doi.org/10.1007/978-981-19-2308-1_30

Image Processing Based Brain Tumor Detection Using MRI

Dr. B. Chinna Rao[1] K.Rajasekhar[2] G.Thrinadh Kumar[3] A.V D S S Yaswanth[4] S.Hashitha[5] Tharun Krishna[6]

[1]Professor, Department of ECE, Raghu Engineering College, Visakhapatnam

[2]Assistant Professor, Department of ECE, N.S.Raju institute of Technology, Visakhapatnam

[3,4,5,6:]UG Students, Department of ECE, Raghu Engineering College, Visakhapatnam

Abstract:

The body's cells divide and expand in a controlled manner in an effort to maintain their health and productivity. Brain tumours are collections of aberrant cells that proliferate uncontrollably. When aberrant brain cells form, a brain tumour results. Uncontrolled and aberrant cell growth characterises tumours. These aberrant brain cells result in headaches, nausea, vision, hearing, and seizure issues, among other symptoms. Using magnetic resonance imaging, we locate or detect the brain tumour using an image segmentation technique (MRI). Filtering and segmentation techniques are used in biomedical image processing, and these techniques are being researched to improve the process. In this study, we apply a collection of image filtering and segmentation algorithms to brain tumour images, and the results are satisfactory.

Keywords: Brain Tumor, Brain MR, Segmentation, Filtering, threshold, image processing.

DOI: 10.24297/j.cims.2022.12.72

1. Introduction

Brain tumours are one of the main reasons why mortality rates for both children and adults are rising. Based on their origin, development style, and aggressiveness, complex brain tumours are primarily divided into two kinds. It is anticipated that 3.4 deaths per 100,000 will result from malignancies of the nervous system worldwide. In England, there are 11 new cases of brain cancer found each day, and nine of these cases result in fatalities. From 11.5 in 1994 to 20.1 in 2008, the prevalence of nervous system tumours in the US has grown.

The way that medical research approach patient care has undergone significant shift during the past few decades. This has raised living standards and given patients comfort. To help clinicians analyse and research a particular disease or disorder, biomedical tools have been developed. There are some life-threatening illnesses, such as cancer, leukaemia, or brain tumours, that, if not diagnosed in time, can be deadly even after a great deal of effort and achievement. The

Original Article

Design And Study Of 32-Bit Arithmetic Logic Unit Block With Reversible Logic Gates

V. Sai Naveen[1], N. Rahim Kumar[2], Y. Chandra Kanth[3], A.Muralidhar[4], B.Ravi Chandra[5]

[1,2,3,4] UG Scholar, [5]Assoc.Professor,
Department of ECE, NSRIT(A), Visakhapatnam.
DOI: 10.47750/pnr.2022.13.S09.1177

Abstract

Reversible logic is a most prominent and renowned Technology which plays an important role in Quantum computing. The main aim of this project is to study the design of schematic layout for a 32-bit Arithmetic Logic Unit (ALU) using reversible logic gates. For the functional development, the speed of our processor in every block will minimize the overall delay for this conventional gates are replaced with reversible gates. Some of the applications of the reversible logic gates are in Nano-technology, Quantum computing, Low power CMOS, Optical computing etc. In the 32-bit processor design VHDL language and software QuartusII tool are used.

Index Terms—Conventional gates, Delay, Low power CMOS, Optical Computing Reversible gates.

1. Introduction

In VLSI, it is one of the leading technologies in the world which we are using in our day to day life. Every day we come across various new and emerging technologies and also the market as well as the demand is also growing. Earlier the computerused to occupied the the whole room and today it is of a very small size, easily accessible and very potable device.At first, the ICs were made of the conventional gates but today in many devices they are replaced by the reversible logics gates. In VLSI it having the ultimate goal is less area, high speed, and low power. we are using reversible logic gates because the CMOS gate have their own limitations. Reversible logic gates gained so much attention in the recent years because of the property of less power consumption.

2. Reversible Logic

Reversible logic is widely used in low power VLSI. It has the ability to reduce the power dissipation without the loss of the information. Basic reversible gates are employed to achieve the required functionality of a reversible circuit [2]. In this, the number of inputs is equal to the number of output. This enables the system to run backwards and while doing so, any intermediate design stage can be thoroughly examined. The fan-out of each block in the circuit has to be one [4]. No information can be lost in the reversibility in computing,so we can achieve information by computing backward. This is known as logical reversibility. The advantages of the reversibility are achieved only after employing physical reversibility [1]. It totally depends on the voltage, if we change the voltage levels, it will charge from one node to next node. Reversible computing strongly affects digital logic designs [3]. It provides optical efficiency and require high level programming language as well.reversible logic gates are used over basic logic gates because,In

Original Article

Review Paper On Wireless Lan Using Distributed Smart Antenna System

B. Ravi Chandra[1], G. Karishma Rani[2], B. Varshit[3], CH. Geethanjali[4], B. Yamini[5], K. Lokesh[6,]

[1]Assoc.Professor [2, 3,4,5,6] UG. Students,
Department of ECE, N. S. Raju Institute of Technology, Sontyam, Visakhapatnam, A.P, India
DOI: 10.47750/pnr.2022.13.S09.1182

Abstract

This paper describes the improvement of wireless local area networks using a Distributed Smart Antenna System (D-SAS), in which interference can be mollified by increasing Wireless Local Area Network (WLAN) Access Points (APs). Due to more usage of smart devices in crowded areas, the frequency channels are reduced, so to overcome this problem we need to develop a new wireless communication system. Earlier Transmission Power Control (TPC) was implemented and later it was replaced by Distributed Smart Antenna System (D-SAS). Using TPC decreases the transmission attribute. Due to this drawback Beam forcing technique using Antenna Arrays was implemented. To mollify Inter-Cell Interference (ICI) a Distributed smart antenna system (D-SAS) for dense Wireless Local Area Networks (WLAN), Access Points (AP's) formation is described and introduced in this paper. Here the Access point transmits to the station by mollifying Inter-Cell Interference (ICI), but the bandwidth and frequency should not be expanded. The Distributed Smart Antenna System (D-SAS) shows better results when compared to the Centralised Smart Antenna System (C -SAS). The paper also consists of system configuration and the working of distributed smart antenna systems for improving Wireless Local Area Networks (WLAN).

KEYWORDS: Access Points (APs), Distributed Smart Antenna System (D-SAS), Wireless Local Area Network (WLAN).

1. INTRODUCTION

The usage of smart devices like smart phones, tablets, and computers is rapidly increasing day by day. The usage of devices in the internet of things is increasing rapidly which is leading wireless communication systems to high load employing mobile traffic. To reduce this mobile traffic the wireless communication system should be improved. To improve WLAN, we have some spatial technologies which increase energy efficiency and connectivity without expanding frequency and bandwidth [1].

The spatial domain technologies are classified as centralized and Distributed Smart Antenna Systems (D-SAS). By increasing spatial streams, the MIMO enables the spectrum efficiency to be improved [1]. The WLAN approach is appropriate with the distributed system irrespective of size and cost of access points (APs). We are provided with many benefits by WLAN AP densification which improves spectrum, coverage, and discontinuation [2]. We are having a limited number of frequency channels for WLAN, this number would be reduced in crowded areas such as shopping malls, stadiums, stations, etc. AP must share their frequency channel with others in dense AP areas. Overlapping Basic Service Sets (OBSS) give rise to inter-cell interference which decreases the system output [1]. Frequency bandwidth also increases due to the interference number of frequency channels decreasing in the future.

It is necessary to mollify ICI to receive rapid reuse of frequency channels so that the WLAN Access Point can also be realized. For mollifying ICI, Transmission Power Control (TPC) was implemented in wireless communication. It reduces the total Transmission energy required to deliver data packets to the destination. It also

Original Article

Review Paper On Alcohol Detection And Vehicle Engine Locking System

Dr. K. Ravi Kumar[1],Yellapu Neeraj Kumar[2], Midathana Kisran[3], Urikiti Teja[4], MD Shakeer[5]

Professor[1], U.G. Students[2,3,4,5]
Department of ECE, N. S. Raju Institute of Technology, Sontyam, Visakhapatnam, A.P, India
DOI: 10.47750/pnr.2022.13.S09.1180

Abstract

Alcohol driving is the foremost cause of road accidents Alcohol detection requires the stopping vehicles and it manually scan the driver's breath analysers. In the system that allows an alcohol sensor with Arduino board and LCD display to show alcohol is detected and it automatically lock the vehicle's motor. The work is developed by integrating sensors based on alcohol content detection conglomerating with Microcontroller board like Arduino Uno, ATmega328 is more versatile in handling more functions than any other conventional microcontroller. The MQ3 module is used to detect alcohol particles with a reasonable sensitivity range of about 2 meters, suitable for all types of vehicles. Thus, the system provides alcohol detection using engine locking through Arduino automatically.

Keywords: Alcohol detection, Arduino Uno, MQ3 Sensor, LCD, Engine Locking.

INTRODUCTION

The current scenario shows that most traffic accidents are caused by drunk driving. Because drunk drivers are not stable, reckless driving may occur on expressways, endangering the lives of road dwellers, including the driver [1]. The inseparable habit of drinking alcohol and then driving the vehicle which is a serious offence in the eyes of law. The issue is also a serious public health concern and could become a major concern in the coming days. The arrangement developed targets to lower down the risk of driving and also reduce the misfortune on road in the coming days due to drunken driver. The work done in this area uses different application of electronic sensors and microcontroller [2]. This research deals with the development of an alcohol sensor that measures changes in alcohol particles present in the air. Such kind of detector is known as a breath analyser, as it used to finding the analysis of the alcohol content present in human breathe. This product contains a detector, microcontroller and other electronic components that detect the presence of alcohol in the surroundings and immediately block the fuel and stop the engine. This activity is an arrangement to ensure passenger safety as it do not allow drunk drivers to keep their engines running.

In civilized culture use of alcohol is taken as a tradition. This custom is also associated with traditions used at festivals and various private parties [3]. A small amount of alcohol alters human behaviour, reducing physical activity and behaviour. A person who consumes alcohol changes the blood alcohol concentration in the body, which affects bodily functions. There is a direct relationship between blood alcohol concentration and breath alcohol concentration [4]. This type of loss of self-control is extremely dangerous and can lead to car crashes, which can endanger people in vehicles and on the road[5].The law has many laws such as fines, driver's license suspension etc, so that this is minimised [6]. The above-mentioned causes show the necessity of a simple, accurate

Original Article

Review Paper On Traffic Density Control System

[1]Dr. K. Ravi kumar,[2]K. Sravana, [3]A. Purna Sai Sri Ram, [4]K. Anusha, [5]B. Loka Nandini, [6]B. Pavan Kumar

[1]Professor, [2,3,4,5,6]U. G. Students
Department of ECE, N. S. Raju Institute of Technology, Sontyam, Visakhapatnam, A.P, India
DOI: 10.47750/pnr.2022.13.S09.1181

Abstract

As the population increases, the usage of personal vehicles (like bikes, cars, etc.) are increasing day by day, which leads to congestion of vehicles. The traffic will be more at morning and evening as the timings of schools, colleges, offices are same there is more chance of congestion at that time. Due to traffic, there will be delay in delivery services, air pollution, sound pollution, noise pollution, unnecessary fuel consumption, delay in case of emergencies. Much research have been carried out to sort out traffic congestion by dynamic traffic light control system using Surveillance, microcontrollers, Arduino platforms with IR sensors, Ultrasonic sensors with the help of Bluetooth module. This paper includes how a traffic system is controlled based on density Using different methods.

KEY WORDS: Traffic density, Sensors**,** Surveillance, Microcontrollers, Arduino

1. INTRODUCTION

More research has done to control the traffic based on density of vehicles. The need for controlling traffic is to provide efficient and safety transportation. To provide the safety measures for drivers they used sign and lights for indicating them there is a turn, accident prone area, speed limit etc. As the technology increasing day-by-day, we always want to lead a comfortable life. In a metropolitan city the population is more as the people from rural migrate to urban areas for work, education etc. As the population increases the need of automobiles also increases. We always prefer own vehicle than public transportation to avoid time delay in turn the usage of vehicles is improving. Due to this the traffic congestion the fuel, energy, time are wasted and the one who are in need i.e., emergency vehicles or the one who want to help those needy ones will be stuck in traffic which may leads to terrific condition of the need persons, due to conventional traffic system. In this system each lane will have same time for red, green and orange signals. Due to this the lanes having no vehicles also have same time as the lane consisting of huge density, where the time is wasted.

Due to conventional traffic system the traffic on heavy density increases. In this concern, to avoid delay, pollution we can use a dynamic traffic control system. The traffic can be reduced by providing variable time periods based on the density. A system in which traffic is controlled based on the total size of the traffic [1]. Another similar method uses camera at each stage of the traffic light to capture the images on selected lane. These captured images are compared with the image of empty roads by image matching process. Edge detection is used to detect the boundaries of the image. There are many papers based on the edge detection process [2]. Instead for finding total number of vehicles on lane, they determine the traffic by total area occupied by vehicles on road with respect to the total pixels of one video frame [3]. In similar manner the traffic density can be controlling by image processing technique [4]. In this method traffic is controlled by comparing the captured images.

GSM along with the help of microcontroller it(time) can be changed by using Ir sensors. It also provides the best route to avoid congestion [5]. In similar manner how the traffic is controlled by using different microcontrollers is discussed [6-7].As the technology increases now the easiest way to Control electronic gadgets we use Arduino, which is not an exception in this case. The traffic density can be controlled using Arduino platforms like Arduino Uno with IR sensor [8],by placing IR sensors on each lane collecting data from sensor & based on number of

Journal of Data Acquisition and Processing
ISSN: 1004-9037
https://sjcjycl.cn/
DOI: 10.5281/zenodo.7766316

A REVIEW PAPER ON HOME SECURITY BASED ON ZIGBEE

N. Vishnu Vardhan[1], R.Niharika Lakshmi[2], V.Manoj[3], S.Janaki Rama Lakshmi[4], S.Prem Kumar[5], Mr .G.S. Suresh Kumar[6]
U.G.Students[1,2,3,4,5], Asst. Professor[6], Department of ECE, N.S Raju Institute Of Technology, Sontyam, Visakhapatnam, A.P, India

ABSTRACT:

Nowadays wireless technology uses for communicating and sharing information between two devices (or) users. Wireless home security is the prevention of unknown things it is low cost and less power consumption whereas it will communicate through the alarm (or) message to our connected device. This paper presents the overall design of wireless smart home security which has been built and implemented in Zigbee. It is standard-based wireless communication it will use at a low cost that anyone can use. Keywords: Sensors, Microcontrollers, GSM module, Zigbee module

I . INTRODUCTION

Our daily lives expose us to a variety of security-related problems. As a result, we had to create cutting-edge technologies to increase the security of these locations. By utilizing some of the frequently employed, inexpensive sensors that are readily available on the market, we may transform our homes into Smart Homes. These sensors will serve as the home's eyes and ears.

Zigbee is a high-level communication protocol for wireless communication that is based on the IEEE standard and suitable for building. It can send and receive data over numerous routers and endpoints. All sensors, microcontrollers, relays, and fire alarm devices will be connected through this network. The benefit of utilizing Zigbee is that it consumes little power and has a wide enough network range.

II. HOME SECURITY

Since its introduction in 2004, Zigbee technology has benefited numerous networking systems. The primary purpose of a Zigbee device is to establish a network by coupling input sensors with output electromechanical relays, motors, and alarms. The security system's fundamental architecture is depicted in This is the suggested architecture for a security system using Zigbee. In this situation, sensors are used as input devices. These inputs include a SIM 900A GSM module, infrared motion sensors, and cameras. These sensors detect when someone is trying to enter a building or a bank; if the individual is permitted, there won't be an issue, but if they are not, the system will lock the doors and bar the entrance. Some drivers are utilized in this system as output devices.

Original Article

Review On Leakage Of Gas Detection Techniques

K.Y.K.G.R. Srinivasu[1], K. Gnaneswara Rao[2], K.Tanujaramani[3], K.Bhavika Sai Rani[4], S. Padmini rani[5], R.Navya Jyothi[6]

[1]Assistant Professor, [2,3,4,5,6]U.G.Students
Department of ECE, N. S. Raju Institute of Technology, Sontyam, Visakhapatnam, A.P, India
DOI: 10.47750/pnr.2022.13.S09.1179

Abstract

Industries releases gases such as I butane, methane, hydrogen, smoke, alcohol, LPG which are very harmful to humans and also damages of the pipeline of the industries spills the gas out which develops a hazardous convergence. Gas like liquefied petroleum gas (LPG) which is also used for the domestic purposes, is a chemical substance obtained from the petroleum which is harmful to the human beings. Also caused many accidents in the past. So different gas leakage techniques are developed to avoid the risks and also to maintain the clean and neat environment.

KEYWORDS: GSM module, Arduino, buzzer, sensors, microcontrollers, node mcu, LCD, BLYNK platform

INTRODUCTION

Our objective is to maintain the human safety. safety refers to the awareness on accidents and potential dangers in and around the human lives. There are many threatens by the several kinds of accidents and risks which we can see in our locality. Leakage of gas is the severe damage to the humans [1].

LPG (liquefied petroleum gas) was discovered by Dr Walter Snelling in the year of 1910[1].LPG gas is the mixture of several gases such as methane and propane mixtures with unsaturated and saturated hydrocarbons which is highly flammable also it is an odor less gas so, some people are not sensitive to smell at low level. This gas leads many severe accidents which may leads to death. So, precautions should be taken in order to avoid this type of accidents. But demand for the LPG gas increasing day by day so, automatically accidents also increased from 0.72% to 10.74% [2].

ARDUINO BOARD:

Arduino is the opensource platform, which is used to create or build many electronic project. It is the combination of both hardware and software. it can be run by uploading the program by using the computer. Which is very popular in the 21stcentury[3]. Arduino accept the C++, which is easier to learn. Having microcontroller, digital inputs/output pins, USB, Analog pins, reset button, power button, LED, crystal oscillator, voltage regulator.

Order Statistics of Doubly Truncated Additive Uniform Exponential Distribution

Article · July 2022

DOI: 10.22214/ijraset.2022.45544

3 authors, including:

Uppu Venkata Subbarao
N.S.Raju institute of technology,Visakhapatnam
11 PUBLICATIONS **10** CITATIONS
SEE PROFILE

Tedlapu Narayana Rao
NSRIT AUTONOMOUS COLLEGE,VISAKHAPATNAM
2 PUBLICATIONS **0** CITATIONS
SEE PROFILE

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 10 Issue VII July 2022- Available at www.ijraset.com

Order Statistics of Doubly Truncated Additive Uniform Exponential Distribution

Uppu Venkata Subbarao[1], K. Srinivasa Rao[2], T. Narayana Rao[3]
[1]*Professor, Department of sciences &Humanities N.S.Raju Institute of Technology,Visakhapatnam,India*
[2]*Professor, Department of statistics, Andhra University, Visakhapatnam, India*
[3]*Assistant Professor, Department of management studies,N.S.Raju Institute of Technology, Visakhapatnam, India*

Abstract: ***In this paper we truncated the Additive Uniform Exponential Distribution (AUED) proposed by Venkata Subbarao Uppu (2010).The probability density functions of r^{th} order Statistics, l^{th} moment of the r^{th} order Statistic, minimum, maximum order statistics, mean of the maximum and minimum order statistics, the joint density function of two order statistics of the truncated distribution were calculated and discussed in detailed .***

Keywords: Additive Uniform Exponential Distribution, Truncation, moments, minimum order statistic, Maximum order statistic, joint density of the order Statistics, complete length of service

I. INTRODUCTION

To introduce the phenomenon of converting an infinite range into a finite range of the random variate we utilize the concept of truncation .The range of the Additive Uniform Exponential distribution is (0, ∞). But in many practical situations arising at places like quality control, agricultural experiments, reliability studies, etc., the variate under study will have a finite range. For example in manpower modeling the complete length of service of an employee will have a finite range. Similarly in other areas like the incontrol times of processes, productions will have minimum and maximum limits. So, for these sorts of situations the random variable under study is to be considered as doubly truncated. Hence, in this paper we develop and analyze a Doubly Truncated Additive Uniform Exponential Distribution.

We discuss the probability density function of Doubly Truncated Additive Uniform Exponential Distribution as follows:

The probability density function of additive uniform exponential distribution (AUED) is

$$g_X(x) = \frac{1}{a}\left[1 - e^{-\theta x}\right]; 0 \le X \le a$$
$$= \frac{e^{-\theta x}}{a}\left[e^{a\theta} - 1\right]; a \le X < \infty \quad (1)$$
$$'a' \text{ and } '\theta' \text{ are the parameters of the distribution}, a > 0 \text{ and } \theta > 0$$

Consider that the range of the random variable is finite say (L,U). Then the probability density function of the Doubly Truncated Additive Uniform Exponential Distribution (DTAUED) is

$$f_X(x) = \frac{g_X(x)}{G(U) - G(L)} \qquad L \le X \le U \quad (2)$$

Where $g_X(x)$ is given in equation (1)

And $G(U) - G(L) = \int_L^a f(x)dx + \int_a^U f(x)dx = \int_L^a \frac{1}{a}\left[1 - e^{-\theta x}\right]dx + \int_a^U \frac{e^{-\theta x}}{a}\left[e^{a\theta} - 1\right]dx$

On simplification $G(U) - G(L) = \frac{1}{a}\left[(a - L) + \frac{1}{\theta}(1 - e^{-L\theta} + e^{-U\theta} - e^{\theta(a-U)}\right]$

Let the value of $G(U) - G(L) = A$

Therefore the probability density function of Doubly Truncated Additive Uniform Exponential distribution (DTAUED) is

$$f_X(x) = \frac{1}{A}\left[1 - e^{-\theta x}\right]; \quad L \le X \le a$$
$$= \frac{e^{-\theta x}}{A}\left[e^{a\theta} - 1\right]; \quad a \le X < U \quad (3)$$

JOURNAL OF NORTHEASTERN UNIVERSITY

Volume 25 Issue 04, 2022 ISSN: 1005-3026 https://dbdxxb.cn/ Original Research Paper

COMMON FIXED POINTS OF GERAGHTY GENERALIZED RATIONAL TYPE WEAK CONTRACTION MAPS WITH ALTERING DISTANCE FUNCTIONS VIA GRAPH STRUCTURES

Kusuma Tummala 1,∗ A. Sree Rama Murthy 2 V. Ravindranath 3 and P. Harikrishna 4

1∗ Corresponding author:Kusuma Tummala, Department of Mathemat- ics, VNR Vignana Jyothi Institute of Engineering,Hyderabad INDIA. e-mail: kusumatummala9@gmail.com

2A. Sree Rama Murthy, Department of Mathematics, Ideal Institute of Technol- ogy, Kakinada, Andhra Pradesh, India e-mail:sr akella2002@yachoo.co.in 2

3 V. Ravindranath, Department of Mathematics, JNTUK College of Engineering, JNTU, Kakinada-521003, Andhra Pradesh, India. e-mail: nath vr@yahoo.com 3

4P. Harikrishna, Department of Mathematics, N S Raju Institute of Technology, Visakhapatnam , 531 173, INDIA.e-mail: phk.2003@gmail.com 4

Abstract. In this paper we prove the existence of common fixed points of β ψ weak generalized rational contraction mappings with two metrics spaces endowed with a directed graph. We provided examples in support of our results.

Keywords: Fixed Point; directed graph; Geraghty contraction; metric space.
AMS(2010) Mathematics Subject Classification: 47H10, 54H25.

1. INTRODUCTION AND PRELIMINARIES

Banach contraction principle is one of the most fundamental results in fixed point theory; by extending the contractive condition and the ambi- ent space, there are several extensions and generalizations. Jachmski [17] extended the structure of orders is replaced by the structure of Graphs on metric spaces in extended fixed point theory. The intersection of theories of fixed point findings with single and multi valued mappings is known as fixed point theory and graph theory. Many researchers [2, 3, 6, 8, 9]studied fixed point results on various spaces endowed with graphs. Fixed point results ex- tended using Gerghty [15, 4]contractions with specific properties. Recently [7] proved the existence of fixed point theorems of auxiliary functions frac- tional differential equations with applications.

Note that metric fixed point and graph theory have common application environments. In the multivalued case, the authors in [3] proved a fixed point theorem for Mizoguchi–Takahashi-type contractions on a metric space endowed with a graph. For further results in this direction, we refer to [4–11]. Recently, in [12], the authors introduced a new concept of contrac- tions called F-Khan contractions and proved a related fixed point theorem. The investigation of iterative plans for different classes of contractive and nonexpansive mappings is a focal point in measurement fixed point hypothe- sis. It began with crafted by Banach who demonstrated an old style hypoth- esis, known as the Banach constriction guideline, for the presence of a one of a kind fixed point for a withdrawal. The significance of this outcome is that it likewise gives

Submitted: 24/11/2022 **Accepted**: 13/12/2022

Middle East Journal of Applied Science & Technology
Vol.5, Iss.4, Pages 05-12, Oct-Dec 2022

Evaluation of Anti-microbial and Anti-fungal Activities of Nano-TiO_2 Assembled with Graphene Composites

Muralasetti Nookaraju[1*], Vaddadi Krishna[2] & Ryali Somasekhar[3]

[1]*Department of Humanities & Basic Sciences, Aditya College of Engineering & Technology, Surampalem, India.*
[2]*Department of Science and Humanities, NS Raju Institute of Technology, Sontyam, Visakhapatnam, India.*
[3]*Research Scholar, Department of Chemistry, Jawaharlal Nehru Technological University, Kakinada, Andhra Pradesh, India.*
*Corresponding Author (Muralasetti Nookaraju) - nookaraju.muralasetti@acet.ac.in**

DOI: https://doi.org/10.46431/MEJAST.2022.5402

Article Received: 27 August 2022 *Article Accepted: 23 October 2022* *Article Published: 08 December 2022*

ABSTRACT

Nanocomposites assembled with TiO_2 and graphene were synthesised under solvent free conditions. The calcinated nanocomposites have been characterized by PXRD, SEM-EDAX, HRTEM and Nitrogen adsorption-desorption techniques. Nanotitania was found to be formed in anatase phase with larger surface area (268.2 m^2g^{-1}) and with increase in graphene content, the absorbance increased towards visible region. Their biological applicability has been evaluated by examining their anti-bacterial activity against *E. coli* (ATCC29181), *S. aurues* (ATCC6538) and their anti-fungal activity against *C. albicans*, *C. rugosa* (ATCC10231) organisms. It has been observed that the biological activity has increased with increase in % graphene from 0.1 to 0.5 and showed a steady decrease with 1.0 % graphene. Compared, to the anti-fungal activity, anti-bacterial activity was identified to be major in the present studies.

Keywords: *Nanotitania; Graphene; Anti-bacterial activity; Anti-fungal activity*.

1. INTRODUCTION

Microorganism contamination is a frequent biological issue in many areas such as hospitals, medical equipment's and devices, food storage, sanitation, water purification and storage systems [1,2]. Selecting an appropriate removal technique of these microorganisms from the area of usage has become inevitable. One of the efficient materials for the purpose is a Photocatalyst applied under optimized conditions [3]. TiO_2, ZnO, Fe_2O_3, WO_3, NiO are few such photocatalysts, with high stability, low cost and vast applicability, have effective anti-microbial activity [4,5]. A wide spectrum of viruses, bacteria, fungi, algae can be removed with these semiconducting materials and TiO_2 was found to be a competent and economical photocatalyst in the application [5]. The anti-microbial activity was more efficiently performed with modified nanotitania materials viz., Ag doped TiO_2 [6], B doped TiO_2 [7], Nano TiO_2-$NiFe_2O_4$ [8] etc. Recently, graphene oxide (GO), the oxygenated derivative of graphene, has been used as anti-bactericidal agent to remove multi-drug resistant bacteria [9]. Along with these reports, several other researchers have produced excellent results on the anti-microbial activity with nanomaterials [10-14]. The main objective of this paper is to evaluate the anti-microbial activity of the TiO_2 nanocomposites assembled with graphene towards the removal of microorganisms like *C.albicans*, *C.rugosa* and gram-negative *E. coli*, gram-positive *S. aurues*. To elaborate the studies, the weight of graphene was varied as x % (x= 0.1, 0.5, 1.0) with a constant weight of titania in the nanocomposites. The same was compared with the separately synthesized nanotitania particles without graphene.

2. EXPERIMENTAL

2.1. Materials

Titanium tetrachloride ($TiCl_4$), graphite powder, potassium permanganate ($KMnO_4$), phosphoric acid (H_3PO_4), sulphuric acid (H_2SO_4), hydrogen peroxide (H_2O_2) was procured with AR grade quality from SD-Fine analytical

On Some Coupled Fixed Point Theorems for Mixed Monotone Mappings in P – Metric Spaces

Kusuma. Tummala[*1], A. Sree Rama Murthy[2], & V. Ravindranath[3] & P. Harikrishna[4]

[*1] Kusuma. Tummala, Assistant Professor, Department of Humanities and Sciences, VNR Vignana Jyothi Institute of Engineering and Technology, Bachupally, Kukatpally, Hyderabad-500090, Telangana State, India

[2] Dr. A. Sreerama Murthy(Rtd), Professor in Mathematics, Kakinada-533003, Andhra Pradesh, India

[3] Dr. V. Ravindranath, Professor in Mathematics, Department of Mathematics, JNTUK College of Engineering, JNTU, Kakinada-533003, Andhra Pradesh, India

[4]P. Harikrishna, Department of Mathematics, N S Raju Institute of Technology, Visakhapatnam , 531 173, INDIA

Abstract: In this present research article, we establish a few coupled fixed point theorems for functions with monotone property in a p-metric space setting. These results generalize some of the fixed point theorems of Nguyen van Luong and Nguyen Xuan Thuan [5].

AMS Subject Classification: 47H10, 54H25.

Keywords: Coupled Fixed Point, Mixed Monotone Property, Partial Ordering, p- Metric Space.

DOI: 10.24297/j.cims.2022.11.032

1. Introduction

The theory of fixed points has been an area of interest for many researchers and it was first studied by a French mathematician *Poincare* in 1886. The fixed point theory is known for its tremendous applications in various fields like Differential Equations, Dynamical Systems, Game theory, Economics, etc. This research article mainly focuses on coupled fixed point theorems. For our work, we consider a partially ordered metric space which was introduced in 1994 by *Matthews* in his research article [3]. In 1987, Guo and Lakshmikantham [1] introduced the concept of a coupled fixed point. In 2006, Bhaskar and Lakshmikantham [2] introduced the concept of a mixed monotone property for the first time and investigated some coupled fixed point theorems for mappings. As a result, many authors obtained many coupled fixed point and coupled coincidence theorems. In 1994, Mathews [8] laid out the idea of a Fractional measurement spaces and demonstrated normal fixed point hypotheses for viable guides in fractional measurement spaces. Additionally Matthews created the Banach constriction rule is legitimate in fractional measurement space and it ought to be applied in program confirmation. Ciric [9] gave the Semi constrictions in metric spaces and laid out Banach constriction standard and numerous other fixed point hypotheses in measurement spaces. It is, as a matter of fact

Biomedical Signal Processing and Control 80 (2023) 104367

Contents lists available at ScienceDirect

Biomedical Signal Processing and Control

journal homepage: www.elsevier.com/locate/bspc

Efficient adaptive enhanced adaboost based detection of spinal abnormalities by Machine learning approaches

R.V.S. Lalitha [a,*], P.E.S.N. Krishna Prasad [b], T. Rama Reddy [c], Kayiram Kavitha [d], Rayudu Srinivas [e], B. Ravi Kiran [f]

[a] Department of C.S.E., Aditya College of Engineering & Technology, Surampalem, A.P, India
[b] Department of C.S.E., Anil Neerukonda Institute of Technology and Sciences, Visakhapatnam, India
[c] Department of C.S.E., Aditya Engineering College, Surampalem, A.P, India
[d] Department of C.S.E., Gokaraju Rangaraju Institute of Engineering and Technology, Hyderabad, India
[e] Department of C.S.E., Nadimpalli Satyanarayana Raju Institute of Technology, Visakhapatnam, India
[f] Department of C.S.E., Nadimpalli Satyanarayana Raju Institute of Technology, Visakhapatnam, India

ARTICLE INFO

Keywords:
Vertebral fractures
Machine Learning
Contour-based hybrid median filter
Histogram Equalization
Mask LSTM

ABSTRACT

Spinal abnormalities are commonly occurring disorders that are caused by injuries, osteoporosis (benign) and neoplastic infiltration (malignant). Patients with one of the listed malignancies must undergo therapy as soon as possible to prevent the progress of the disease and to avoid further bone damage to preserve a better quality of life. Classification of patients into low or high-risk groups is an important step in diagnosing a disorder, which led biomedical and bioinformatics research teams to investigate the usage of machine learning (ML) technologies. In this paper, ML techniques are adapted to a public lumbar spine dataset to detect vertebral fractures. First, the dataset was preprocessed by using the contour-based hybrid median filter with histogram equalization. Then the Mask LSTM-based R.O.I. segmentation techniques are applied to segment the spinal images. Finally, the suggested stacked Adaptive Enhanced AdaBoost (AE-AdB) gets trained on whole images to enhance the accuracy of the data classification. Results of the experiment show that the attained accuracy (97.86%) of the AE-AdB classifier was significantly higher than that of the other classifiers, namely Convolution Neural Network (CNN) (74%) and Extreme Gradient Boosting Algorithm (XGBoost) (84%).

1. Introduction

The primary support system of the human body is the spine, or vertebral column. Different spinal disorders or abnormalities include vertebral fractures (V.F.s), scoliosis, lordosis, spinal tumors, spinal trauma, and spondylolisthesis. V.F.s are general and critical, which might occur in 30–50 % of people over 50 % and create minor or aggressive effects. The most significant and common osteoporotic fractures are V.F. s [1]. Osteoporosis is defined as a bone disorder that increases the risk of fracture in people. Chronic back discomfort, functional loss, and numerous organ dysfunctions, such as severe myocardial infarction, obstructive pulmonary disease, gastroesophageal reflux disorders, and congestive heart failure, are some of the symptoms of V.F. In adverse cases, V.F.s are associated with decreased life quality and, in some cases, might result in mortality [2].

Benign fractures can be cured with a good outcome if proper treatments are given. Treatments for V.F.s are confirmed based on their causes. Osteoporotic vertebral fractures (O.V.F.s) are a major medical concern because they are frequently undiagnosed and related to subsequent fractures, tumor growth, and increased mortality risk. Hence, they must be diagnosed at an early stage to facilitate treatment and reduce the risk to patients [3]. But the lack of proper symptoms and underreporting of O.V.F.s from C.T. scans by clinicians led to the use of newer computer-aided approaches for detecting O.V.F.s.

Recent advancements in machine learning approaches have paved the way for their application in the medical diagnosis field. For this reason, ML techniques have been suggested as a promising solution in the medical field because of their capacity to detect disease patterns with higher accuracy compared to that of human experts [4]. In the last few years, various ML algorithms have been developed for the

* Corresponding author.
E-mail addresses: rvslalitha@gmail.com (R.V.S. Lalitha), surya125@gmail.com (P.E.S.N. Krishna Prasad), ramatreddy@gmail.com (T. Rama Reddy), kavitha.bits@gmail.com (K. Kavitha), rayudu_srinivas@rediffmail.com (R. Srinivas), drbravikiran.cse@nsrit.edu.in (B. Ravi Kiran).

https://doi.org/10.1016/j.bspc.2022.104367
Received 3 March 2022; Received in revised form 28 September 2022; Accepted 30 October 2022
Available online 7 November 2022
1746-8094/

Biomedicine and Chemical Sciences 1(4) (2022) 207-214

27-BCS-1072-84

Content list available at:
https://journals.irapa.org/index.php/BCS/issue/view/15

Biomedicine and Chemical Sciences

Journal homepage: https://journals.irapa.org/index.php/BCS

Hybrid Clustering Approach for Time Series Data

V Harsha Shastri[a*], Prathipati Ratna Kumar[b], Madhavi Kolukuluri[c], D Radha[d], Donthireddy Sudheer Reddy[e], B N Siva Rama Krishna[f]

[a] Department of Computer Systems and Engineering, Loyola Academy, Secunderabad, Telangana – India
[b, e, f] Department of Computer Science and Engineering, Koneru Lakshmaiah Education Foundation, Hyderabad – India
[c] Department of Computer Science and Engineering, NSRIT, Visakhapatnam – India
[d] Department of Computer Science and Engineering, Raghu Engineering college, Visakhapatnam – India

ARTICLE INFO

Article history:
Received on: November 13, 2021
Revised on: July 20, 2022
Accepted on: July 20, 2022
Published on: October 01, 2022

Keywords:
Clustering
Data mining
Distance measure
K-means
K-means++
K-median
Time series data

ABSTRACT

The clustering of data series was already demonstrated to provide helpful information in several fields. Initial data for the period is divided into sub-clusters Recorded in the data resemblance. The grouping of data series takes 3 categories, based on which users operate in frequencies or programming interfaces on original data explicitly or implicitly with the characteristics derived from physical information or through a framework based on raw material. The bases of series data grouping are provided. The conditions for the evaluation of the outcomes of grouping are multi-purpose time constant frequently employed in dataset grouping research. A clustering method splits data into different groups so that the resemblance between organisations is better. K-means++ offers an excellent convergence rate compared to other methods. To distinguish the correlation between items the maximum distance is employed. Distance measure metrics are frequently utilized with most methods by many academics. Genetic algorithm for the resolution of cluster issues is worldwide optimization technologies in recent times. The much more prevalent partitioning strategies of large volumes of data are K-Median & K-Median methods. This analysis is focusing on the multiple distance measures, such as Euclidean, Public Square and Shebyshev, hybrid K-means++ and PSO clubs techniques. Comparison to orgorganization-basedthods reveals an excellent classification result compared to the other methods with the K++ PSO method utilizing the Chebyshev distance measure.

1. Introduction

Digitally, there was a rapid expansion of IT and a vast volume of data acquired from many sectors. The corporate expert's more hard role is to turn enormous measures of data housed in structured data into technical knowledge. This job is accomplished via Knowledge Discovery in Databases (KDD). Data mining (Aghdasi, et al., 2014) is component of the Process model. In order to find heretofore unknown, meaningful patterns and connections in huge data sets, big data refers to the application of data analytic tools. One of the big data mining operations is grouping (Sethi & Mishra, 2013).

The study of clusters is the act of aggregating a number of observations just so the sustainability describes within that group are much more comparable as well as the data sets of other groupings are distinct. Unchecked approach is done cluster, since groupings are not previously known. In a data collection (Danesh, et al., 2011) the objective of grouping is to find thick and empty areas. Clusters is utilized in various fields such as system modelling, model analysis, machine intelligence, image classification, image recognition, genomics, data recovery and the finding of data. Thus, it is a significant issue of study in several fields.

Data clustering may be widely grouped into hierarchy techniques, partial approaches, cluster analysis techniques; location is strategic techniques and modelling classification algorithms.

*Corresponding author: Prathipati Ratna Kumar, Department of Computer Science and Engineering, Koneru Lakshmaiah Education Foundation, Hyderabad – India

E-mail: rk30111972@klh.edu.in

How to cite:

Prathipati, R. K., Shastri, V. H., Kolukuluri, M., Dharavathu, R., Reddy, D. S., & Krishna, B. N. S. R. (2022). Hybrid Clustering Approach for Time Series Data. Biomedicine and Chemical Sciences, 1(4), 207–214.

DOI: https://doi.org/10.48112/bcs.v1i4.84

Detection of Unauthorized Access Points Based on Machine Learning Techniques

Challa Narasimham, Velamuri Manasa, Sujatha Karimisetty, N. Viswanadha Reddy, and Sudhanshu Maurya

Abstract Wireless networks were widely used, but they were actually a threat. Represents Recognized as a wireless AP (access point). In particular, unauthorized APs used by businesses, military installations, and government agencies can be exposed to hacking attacks. Therefore, to protect your information, it is significant to identify unauthorized APs. This paper addresses round-trip time (RTT) values as records to identify allowed and unallowed APs in a wireless integrated atmosphere. Machine learning techniques such as potential Dirichlet mapping, k nearest neighbors, naive bays, support vector machines, bagging, adapter boosting, gradient boosting machines, random forests, additional trees, and gradient descent techniques are employed to resolve these issues. Gradient Boosting algorithm is used for protection and identification. This is developed and tested on data set. Experimental results show that it offers the highest accuracy.

Keywords Hacking attacks · Gradient boosting algorithm · Machine learning

1 Introduction

Because of quick growth of devices employing cellular networks, it is difficult to locate places without wireless internet in present scenario. Wireless internet is currently present in corporation, coffee shop, armed forces establishments and public organizations. Wireless internet is accessed by numerous unspecified users, creating it tough to find everyone. And even when binding similar devices to hotspot that use legal wireless internet, discovery is problematic until this is observed with deep sense [1].

C. Narasimham · V. Manasa (✉) · S. Karimisetty
CSE, Dadi Institute of Engineering and Technology, Visakhapatnam, India
e-mail: sujathakota29@gmail.com

N. Viswanadha Reddy
CSE, Nadimpalli Satyanarayana Raju Institute of Technology, Visakhapatnam, India

S. Maurya
School of Computing, Graphic Era Hill University, Dehradun, India

S. Maurya et al. (eds.), *Cyber Technologies and Emerging Sciences*, Lecture Notes in Networks and Systems 467, https://doi.org/10.1007/978-981-19-2538-2_41

Original Article

Speech Recognition With Deep Learning

Viswanadha Reddy N*, Aravind Yerninti#,Deepak Rapeti#,Yamini Sahukar#,Cheticom Venkata Vamsi Krishna#

*Sr. Assistant Professor, Department of CSE(AIML)
#Student, Department of CSE (AIML)
Nadimpalli Satyanarayana Raju Institute of Technology, Visakhapatnam, AP, India
DOI: 10.47750/pnr.2022.13.S09.1070

Abstract

Presently, computers have already replaced a tremendous number of humans in many creative professions. Therefore, Artificial Intelligence areas are composed of Machine Learning, Natural Language Processing, Computer Vision, and Robotics. Similarly, speech recognition can be predicted by using computers. In audio files or video files that are large and have many minutes in length, many files have a variety of audio and audio files. This research chose to listen to the desired sound from a large file. In this research, deep learning was used to classify speech.The utilization of speech recognition based on deep learning has increased dramatically in the past years by using different deep learning techniques and algorithms, the main deep learning algorithms used for speech recognition are Recurrent Neural Networks (RNNs) which have introduced to take temporal dependencies into account, and Long Short-Term Memory (LSTM) which are a special case of RNNs, that takes long-term dependencies in a speech in addition to short term dependencies into account and the Convolutional Neural Networks (CNNs) which are effective models for reducing spectral variations and modelling spectral correlations in acoustic features for automatic speech recognition (ASR).

Keywords: Speech recognition, Deep Neural Network, Hidden Markov Models (HMM)

Introduction

Neural network, also known as artificial neural networks or simulated neural networks which are a subset of machine learning and are at the heart of deep learning algorithms. It has grabbed a great attention in the recent years because of the artificial neural network (ANN) which play a vital role in the speech recognition because of its parallel processing capability which have a numerical value that can perform more than one task simultaneously and have a capability to work with incomplete knowledge that the information can produce the targeted output without having an adequate data Artificial Neural Networks, (ANN) are biologically inspired tools for information processing [15]. Speech recognition modelling by artificial neural networks (ANN) doesn't require a priori knowledge of speech process and this technique quickly became an attractive alternative to HMM algorithm.

The conventional neural networks of Multi- Layer Perceptron (MLP) have been in a great use for speech recognition and speech processing applications. Speech recognition is the process of converting an acoustic signal, captured by the microphone to a set of characters, the recognized characters can also serve as the input to further linguistic processing in order to achieve a better speech understanding. Naive Bayes algorithm is a supervised learning algorithm, which is based on Bayes theorem. This algorithm is used for solving classification problems. And it is used in text classification that includes a high-dimensional training dataset.

Literature Study

[1] In this article "Automatic Speech Recognition Towards Education for Disabilities", they have used the Clustering algorithm, Gem algorithm and the dataset used wasthe experiments are audio speech recognition using two different datasets and visual speech recognition using two different datasets. For both the audio and visual speech recognition, results are obtained using two datasets and for each dataset.The experimental results show that the proposed system achieves 76.60 % accuracy for visual speech and 96.00 % accuracy for audio speech recognition.

A Novel Methodology Proposed To Produce A Secure Password

Veera Babu Sreesailam[1] , Divya Gowri Pentakota[2] , Thanmai Pappala[3] , Shankar Kopanati[4] , Chalice Prajwal Siripurapu[5]

[1]Department of Computer Science Engineering Nadimpalli Satyanarayana Raju Institute of Technology Visakhapatnam, India

[2]Department of Computer Science Engineering Nadimpalli Satyanarayana Raju Institute of Technology Visakhapatnam, India

[3]Department of Computer Science Engineering Nadimpalli Satyanarayana Raju Institute of Technology Visakhapatnam,India

[4]Associate Professor Department of Computer Science Engineering Nadimpalli Satyanarayana Raju Institute of Technology Visakhapatnam, India

[5]Department of Computer Science Engineering Nadimpalli Satyanarayana Raju Institute of Technology Visakhapatnam,India

DOI: 10.47750/pnr.2022.13.S07.634

Abstract

A password is a string of alphabets special symbols which is used for the giving security of user accounts/files to protect the user. The more efficient the password is the strongest security it provides. Previously so many strategies were created for password generation like mnemonic shape, alphapwd, etc. Here a new strategy is proposed in this paper to create a secure password. In this strategy it performs combination of randomly generated 10-digit numbers (generated using a random function available in a python programming language) and takeskey numbers from user as input and encrypts those key numbers to random 10 digits and strings concept to produce a stronger password, this strategy is implemented in python environment. The generated password satisfies all conditions required for a strong password. The generated password consists of one digit, one capital letter, a small-cap combination, and one special character. In general, a password is between 8 to 10 characters only, but in this strategy, the generated password is up to 12 characters which provide more security. Even though any hacker tries to hack it's become very complex for hackers to generate a 12-digit character password because a normal password is 8 to 10 characters only. This is more advantageous and provides more security. We also checked the strength of the passwords that are generated using this algorithm in 3 popular online websites which determine the strength of the password.

Keywords—python programming language, random module, strings, Explicit type conversion, ASCII value, password, security

I. INTRODUCTION

In today's modern world we are using online services for various purposes like education, banking, shopping, accounting, social media, e-mail, food services (like Zomato, Swiggy), and so on ,for protecting our individual access to our online registered accounts we need more security. To provide security we had so many ways like Authentication, Authorization, firewalls, and so on. In this paper, we talk about strengthening the password-Authentication system by generating a strong and securable password. A typical password is used for authentication of the systems, it is defined as a process that involves a user inputs a unique ID and key or password that are then checked against stored credentials in the database. To strengthen the password authentication system we need a complex password which is not easy to hack,such type of complex password is generated by using our algorithm.

Original Article

Framework On Text And Predictive Analytics

A. Suraj Kumar[1], G.V.V. Harshak[2], K. Syamanth[3], P. Viswanadh[4], S. Lokesh Kumar[5]

[1] Assistant Professor, Department of CSE (Data Science), Nadimpalli Satyanarayana Raju Institute of Technology, Sontyam, Visakhapatnam

[2] Student of Department of CSE (Data Science), Nadimpalli Satyanarayana Raju Institute of Technology, Sontyam, Visakhapatnam

[3] Student of Department of CSE (Data Science), Nadimpalli Satyanarayana Raju Institute of Technology, Sontyam, Visakhapatnam

[4] Student of Department of CSE (Data Science), Nadimpalli Satyanarayana Raju Institute of Technology, Sontyam, Visakhapatnam

[5] Student of Department of CSE (Data Science), Nadimpalli Satyanarayana Raju Institute of Technology, Sontyam, Visakhapatnam

DOI: 10.47750/pnr.2022.13.S07.632

Abstract

Big data is a driver that influenced the world organizations and industries. It is a big task to Handleand analyse the data that is available in our local sources which is evolving in a large volume. So, here to process this huge data we use big data analytics, its methods and techniques such as predictive analytics and text analytics. The information will be collected from various sources and converting that dataset into a frame format for our requirements accordingly. Big data analytics has become the latest market trends in business intelligence and manyother industries. So, industries started adapting the big data analytics techniques to analyse the data sets. The main purpose of big data analytics techniques is to analyse the variety of data and provide the meaningful insights accordingly. This paper will provide the detailed view of a big data analytics techniques that are used by different organisations which helped them to make their business market in a much efficient way.

Keywords-Big Data Analytics, Text analytics, Predictiveanalytics

1. Introduction:

Big data analytics is the process of examining big data to uncover the information like hidden patterns, correlations, market trends and customer preferences which helps the organizations to take their business decisions, new revenue opportunities in a much efficient way. [1] Data analytics technologies andtechniques have given a new way of analysing the datasets and gather new information. The main use ofdata analytics for business organizations is to make data-driven decisions that can improve theirbusiness-related outcomes

Original Article

Review On Technologies And Tools Of Big Data Analytics

P.Kavya[1], B.Vineela[2], G.Bindhu madhavi[3], K.Vahini sai saranya[4], M.Likhitha[5]

[1]Assistant Professor, Dept.of CSE, Nadimpalli Satyanarayana Raju Institute of Technology, Visakhapatnam-531173, AP, India.
[2,3,4,5]Students, Dept. of CSE, Nadimpalli Satyanarayana Raju Institute of Technology, Visakhapatnam-531173,AP,India
DOI: 10.47750/pnr.2022.13.S07.623

Abstract

Big data and data science are the two most prominent contemporary developments. Big data analysis increases the requirement for innovative system designs, which promotes the creation of procedures that can manage massive data quantities while maintaining the ag

ility, flexibility, and interactive feel that a data scientist requires. Big Data is the outcome of data being created at an exponential rate. This data is diverse and Includes unstructured, and semi-structured data types. It provides valuable information for many Sorts of stakeholders based on their needs, but it cannot be met using standard tools and procedures. Big data technologies play a critical role in handling, storing, and processing this massive quantity of data. It is further classified as text analytics, audio analytics, video analytics, and social media analytics. Big data analytics, when combined with big data analysis, has a major impact.

Keywords Big data, big data analytics, big data processing, big data processing technologies, big data analysis.

Introduction

Big data analytics is the use of advanced analytical techniques to very big data sets that comprise structured, semi-structured, and unstructured data from many sources with sizes ranging from terabytes to zettabytes.

The contribution of the paper is to give an examination of the extant literature on big data analytics. As a result, some of the numerous big data tools, methodologies, and technologies that may be used are described, as well as their applications and opportunities in diverse decision domains.

Data is the building block upon which any organization thrives. Organization would lose their capacity to extract important information and expertise, conduct extensive analyses, and create new opportunities and benefits.

Big data is defined by O'Reilly as data that can be processed faster than traditional database systems. The data does not fit the structures, travels too quickly, or is too large of the current database structures. There must be a different method of processing this fact to extract the value from them

Big data analyzing

The often challenging process of analyzing large amounts of data to find information that might assist businesses in making wise decisions about their operations, such as hidden patterns, correlations, market trends, and customer preferences is known as big data analytics. Organizations can analyze data sets and gain new insights using data

Original Article

Hidden Patterns Of Big Data AndData Analytics Applications In Different Sectors

P. Kavya[1] , G. Jayaprakash[2], N. Seshu Kumar[3], P. Nikesh Varma[4], R. Sai Tarun[5]

2,3,4,5 Students, Dept. of Computer Science & Engineering (Data Science),
1 Assistant Professor, Dept. of Computer Science & Engineering(Data Science), Nadimpalli SatyanarayanaRaju Institute of Technology, Sontyam, Visakhapatnam-531173, Andhra Pradesh, India.
DOI: 10.47750/pnr.2022.13.S07.630

Abstract

Big Data is a very important technology that has the potential to change the world. Over the past few years, big data has been growing at an exponential rate. Now, it is used not only to collect information but also to make decisions and control our lives. The world's data collection is reaching a tipping point for major technological changes bringing new ways of decision making, managing our health, cities, finance, and education. While complexities are increasing including data's volume, variety, and veracity, real impact hinges on our ability to uncover data through big data analytics technologies. Big Data Analytics poses a grand challenge to highly scalable algorithms and systems to integrate the dataand uncover large hidden values from datasets that are diverse, complex, and of scale. Applications in Big Data Analytics that discover useful and hidden knowledge from big data efficiently and effectively. BDA impact on Self driving cars and how they worked and useful in Real time scenario. BDA technology helps making autonomous vehicles real time as we can see them working in our stream believing they are human in order to make decisions based on information they receive from sensors and actuators and pushforward their work with utmost accuracy hence providing an accurate result. Avoids Traffic Collisions and reduce the no of Deaths and Accidents.[1][5][16][25][26][27][28][35]

Keywords : Big Data, a5 V's, Big Data Analytics, Self driving Cars, Artificial Intelligence, Machine Learning

I. INTRODUCTION

Big Data word that deals with a huge amount of data that contains characteristics like more velocity,greater variety, and increasing Volumes, also three Vs majorly known to experts in the big data world. Not only these three characteristics and there are two more in Big data, Veracity and Value. Veracityfor its quality and Accuracy of data. defines the usefulness of gathered data for business decision-making. These data sets are so voluminous that they gather data for business decision-making. These data sets are so voluminous that traditional software just can't manage them. but these massive volumes can be used to address business problems you wouldn't have been able to tackle before. Big Data Analyticsprocess of collecting large chunks of structured/ unstructured data, segregating and analyzing it, anddiscovering patterns and other useful business insights from it. It helps determine which data can be analyzed to drive better business decisions in thefuture. It linked on the one hand to data science andmachine learning, and on to data and software engineering. Being the role that analytics plays in business strategy, business intelligence entails the analysis of past and present data actionable insightsfor informed decision-making. big data defined as 5v's i.e. velocity, volume, variety, veracity, and value
.[2][3][7].

Original Article

Customized Digital Mobile Case

Madhavi Kolukuluri[1],Varada Karunakar[2], Siddhartha Godaba[3], Naresh Nallam[4], Middi Yaswanth[5]

[1] Professor, Dept.Of Computer Science & Engineering, Nadimpalli Satyanarayana Raju Institute Of Technology, Sontyam, Visakhapatnam-531173, Andhrapradesh, India.

[2,3,4,5] Student, Dept.Of Computer Science & Engineering, Nadimpalli Satyanarayana Raju Institute Of Technology,Sontyam, Visakhapatnam-531173, Andhra Pradesh, India.

DOI: 10.47750/pnr.2022.13.S07.633

Abstract

Nowadays everyone uses smart phones and the Internet. With that, they are taking some precautions to keep theirmobile safe. For example, Everyone uses mobile cases to prevent their mobile phone from being damaged. But weare using plastic or transparent mobile cases, these plastic mobile cases are harmful to the environment and cause Global Warming, due to high temperatures mobile case color will be changed, and sometimes the mobile generates too much heat due to that mobile cases will be burned. Based on the current trend, design, and wallpaper of the mobile case we are changing from the old mobile case to the new mobile case.

So that we want to design a digital mobile case to prevent the mobile case from the damages also people can change the background wallpaper by their choice because we are introducing digital mobile case and also these digital mobile cases are not causing any Global Warming.

Keywords -- Mobile case, Environment, Global Warming, Transparent, Internet.

1. Introduction

The digital mobile case is very helpful for humans to save money to save the environment and to save time.People will be changing mobile cases because of new designs, damages and changing color of mobile cases, etc….

Fig.1. Damaged mobile case

In the 20th century, mobile phones are very essential for everyone for communication, entertainment, social media,and many other purposes. Even kids also carry mobiles andplay games mobile phone temperature increases, Figure1shows damaged mobile case because of high temperature , sometimes due to high-temperature mobile case color willbe changed show Figure2 you will get clear cut picture about color changed mobile case , Sometimes if a mobilephone generates too much heat daily then these mobile cases will be burned.

Original Article

Mining And Machine Learning In The Manufacturing Products

Madhavi Kolukuluri[1], A Sagar[2], Sureddi Niharika[3], Chepala kishore[4], Nakka Krishna Prasad[5]

[1]Proffessor, Dept. of Computer Science & Engineering (Data Science), Nadimpalli Satyanarayana Raju Institute ofTechnology, Sontyam, Visakhapatnam-531173, Andhra Pradesh, India.
[2,3,4,5] Student, Dept. of Computer Science & Engineering (Data Science), Nadimpalli Satyanarayana Raju Institute ofTechnology, Sontyam, Visakhapatnam-531173, Andhra Pradesh, India.
DOI: 10.47750/pnr.2022.13.S07.635

Abstract

Today, we live in a data-driven world where millions of knowledge resources come from the Internet and various databases. Manufacturing companies need to use different types of techniques and tools to achieve their foundational goals. In this context, the use of machine learning (ML) and data mining (DM) techniques and tools could be very helpful to overcome manufacturing challenges. This paper presents a comprehensive literature review on how machine learning techniques can be appliedto implement manufacturing mechanisms. Our contributions are intended to provide an understanding of the main approaches and algorithms that have been used to improve manufacturing processes in recent decades. In addition, the main steps of the Knowledge Discovery in Databases (KDD) process to be followed in manufacturing applications are explained in detail.

Keywords-- Foundational goals, data mining, comprehensive literature, knowledge discovery.

I. INTRODUCTION

Machine learning (ML) is an important research area in artificial intelligence that helps computers build models based on experience and accurately predict future events. The main ML approaches fall into two main categories: supervised learning and unsupervised learning. A typical problem of supervised learning is classification, while unsupervised learning is more commonly used for clustering problems. Commonly used classification techniques include neural networks, support vector machines, and decision trees, and the most commonly usedclustering technique is k-means. ML Techniques have been successfully applied in many different fields such as health, education, wireless sensor networks, and finance. Thispaper provides an overview of the use of ML techniques inmanufacturing [12].

In modern manufacturing plants, powerful data acquisitionsystems are used to electronically capture and transmit datafrom almost every process in the enterprise. Many production variables are measured continuously at variousstages, and their values are stored in company databases. These data may relate to the characteristics of the products,the machines, the production line (e.g., which machine wasused with which setting parameters), the personnel operating the production line (e.g., the experience level ofthe worker, the type of shift), the raw materials used in theprocess, the environment (humidity,

temperature, etc.), the sensors attached to the machines (vibration, force, pressure, voltage, etc.), machine failures/maintenance, product quality, and other importantproduction factors.

Recently, several reports have appeared on ML and DM inthe manufacturing industry. However, some of them focusonly on one area of manufacturing, such as the electronicsindustry, additive manufacturing, or semiconductor manufacturing. Some of them focus only on one topic, such as quality assessment; some of them include only data mining studies but no machine learning; some of them arenot

Original Article

Business Intelligence Using Data Mining Techniques And Predictive Analytics

Madhavi Kolukuluri [1], V Keerthana Devi[2], S Sai Tejaswini [3], K Anusha[4]

[1] Professor, Department of CSE(Data Science) NSRIT, Visakhapatnam, India
[2] Student of Department of CSE(Data Science) NSRIT ,Visakhapatnam, India
[3] Student of Department of CSE(Data Science) NSRIT , Visakhapatnam, India
[4] Student of Department, Department of CSE(Data Science), NSRIT, Visakhapatnam, India
DOI: 10.47750/pnr.2022.13.S07.837

Abstract

Data mining techniques are used to automatically find and extract information from web pages and services, which is what "web mining" means. A decision support system is a computerized information that aids in organizational or corporate decision-making. Data mining and business intelligence approaches can be combined to create more sophisticated decision support systems.

The creation of cutting-edge decision support systems is said to be accomplished through a series of procedures that they refer to as web mining. The writers may create sophisticated decision support systems for websites that combine data mining and business intelligence by doingthings in this order.

As a result of the revolution in information and communication technology, we now live in a digital world with enormous amounts of data. Using mining technology, business pore vast amounts of data in searchof crucial information and insight. Large databases andthe internet both require the use of mining techniques like data mining, text mining, and web mining to uncover hidden knowledge. Mining tools are hidden softwaretools that are used to gather corporate intelligence. Theydo this by discovering hidden links and predicting the future from vast amounts of data. The knowledge that has been discovered helps with gaining competitive advantages, enhancing customer relations, and even fraud detection. In this survey, we will go over how thesetactics work and are applied. We will discuss how corporate goals and achieved using data mining technology.

Keywords: Business Intelligence, Data Mining, Predictive Analytics

Introduction:

The corporate economy of the twenty-first century ispowered by data, which is referred to as figurative lifeblood. Data is a key to unlocking human productivity in every area of life, even though the mere mention of it may conjure up fantastical possibilities in some people's minds. With the correct combination of data insights, you can understand everything from agricultural output to climate change and company failures. The learning of detours for us in problem-solving is cut short by the availability of data

According to the research [5], data mining is a technique that is created and utilized to examine data. This process is quite similar to the real-life process of mining out nuggets of gold from theEarth. More particular, it is similar to extracting nontrivial nuggets from vast amounts of accessible data. This study examines how data mining may help business intelligence discover trends and acquireinformation from current data.

In the research [2], it was noted that due to the tremendous rivalry; corporations are pushed to comeup with novel concepts for capturing and increasingtheir market shares while also lowering theirexpenses. Implementing data analysis techniquescan assist businesses in finding solutions such as identifying unexpected patterns in massive amountsof data stored in a database or data warehouse. Thesepatterns can reveal information that can be used to forecast future events [1].

Original Article

Exploratory Of Data Visualization With Tools

T.V.S Sriram [1], P. Raju[2], B. Balaji kumar reddy[3], K. Paresh[4], S. Pavan sai kumar[5]

Associate Professor[1], Dept. of Computer Science and Engineering, Nadimpalli Satyanarayana Raju Institute ofTechnology, Sontyam, Visakhapatnam-531173, Andhra Pradesh, India.

Students[2], Dept. of Computer Science and Engineering (Data Science), Nadimpalli Satyanarayana Raju Institute ofTechnology, Sontyam, Visakhapatnam-531173, Andhra Pradesh, India.

DOI: 10.47750/pnr.2022.13.S07.631

Abstract

Data visualization is the quite new and promising field incomputer science. In this paper first we get familiar with data visualization and its related concepts. Then we will take a look through the tools of data visualization. Data mining is a concept of discovering meaningful patterns from large data repositories, Data visualization iscommon in your daily life. Data visualization represents data through the use of common graphics, such as Bar charts, Pie charts, Histograms, Statistical Graphs, Trigonometric graphs, and animations. Data visualizationtransforms small and large data sets into visuals, which will be easy to understand and process for people. Data visualization tools provide reachable ways to understand trends, patterns, and exceptions in the data. In the world of Big Data, data visualization tools and technologies areneeded to analyze huge amounts of information. Data visualizations are used to discover new facts. We also present a data set and explanations around it.

Keywords: Data mining, Bigdata, Data visualization.

1. Introduction

Data mining is a logical process that is used to search through large amount of data in order to find usefuldata[1]. Data mining is the process of analyzing massive amounts of information and datasets, extracting and useful intelligence to help organizations solve problems, predict trends, mitigate risks, and find new opportunities.

The concept of data mining has been with us since long ago. The idea of applying data to knowledge analysis hasbeen around for centuries, starting with manual formulasfor statistical modeling and regression analysis. In the 1930s, Alan Turing introduced the idea of a universal computing machine that could achieve complex computations. This marked the rise of the electromechanical computer and with it, the ever-expanding explosion of digital information that continuesto this correct day.

Data mining also includes establishing relationships and finding patterns, anomalies, and correlations to tackle issues, creating actionable information in the process. Data mining is a wide-ranging and varied process that includes many different components, some of which are even confused for data mining itself.

Data is pouring into your businesses daily from a brilliantarray of sources, in a multitude of formats, and an extraordinary speed and volumes. your business success depends on how quickly you can discover vision from bigdata and incorporate them into business decisions and processes to drive better actions across your company. However, with so much of data to manage, this can seemlike an impossible task.

Data mining gives businesses a chance to optimize operations for the most likely future by perception the past and present, and making exact predictions about whatis likely to happen next.

Original Article

Integrating Business Intelligence Into A Strategy

Anthani Kamala Priya[1], Seeram Ruth Praisy[2], Kanakam Yogesh[3], Dindi Manognya Devi[4], CherakapuRavindra.[5]

[1]Assistant professor, Dept. of Computer Science & Engineering (Data Science), Nadimpalli SatyanarayanaRaju Institute of Technology, Sontyam, Visakhapatnam-531173, Andhra Pradesh, India.
[2,3,4,5] Student, Dept. of Computer Science & Engineering (Data Science), Nadimpalli Satyanarayana RajuInstitute of Technology, Sontyam, Visakhapatnam-531173, Andhra Pradesh, India.
DOI: 10.47750/pnr.2022.13.S09.1007

Abstract

Business planners and decision-makers can access useful and competitive information via business intelligence systems, which combine operational and historical data with analytical tools. Business intelligence (BI) aims to increase the quality and timeliness of information and give managers more insight into how their company stands in relation to its rivals. Applications and technologies for business intelligence can aid organizations in the analysis of shifting market share patterns and customer behaviour and spending patterns, client preferences, organizational resources, and market circumstances. Analysts and managers can utilize business intelligence to identify the adjustments that are most likely to address shifting trends. The development of data warehouses as a repository, improvements in data purification, expanded hardware and software capabilities, and the rise of the web architecture work together to produce a more advanced business intelligence environment than was previously possible. This document makes an attempt to create a framework for creating a BI system.

Keywords— Timeliness, Rivals, Repository, Data Warehouses, Web Architecture, Business Intelligence.

I. INTRODUCTION

Although the corporate environment is continually evolving and company processes are growing more complicated, making it more challenging for managers to have complete knowledge about the business environment. The causes of mergers &acquisitions, deregulation, and globalizationTechnology progress and competition have forced businesses to reassess their business plans, and many Businesses of all sizes have turned to business intelligence (BI) strategies to aid them in comprehending and managing business procedures for gaining a competitive edge.BI is generally used to enhance the quality and timeliness of information and to help managers better comprehend their firm in comparison to rival companies. and BI apps Technologies assist businesses in analysing shifting patterns in market share; modifications in consumer spending and behaviour patterns, client preferences, and businesscapacities; and market circumstances. In order to assist analysts and Managers choose the adjustments that will most likely react totransforming patterns. It has become a thought for collecting data and analysing it to aid in decision- making making units get a more thorough understanding of and make better business judgments by understanding an organization's operations.

A subset of decision support systems is BI (DSS) This is a system of information that may be utilizedto aid in making hard decisions and addressing complex problems and difficulties that are ill- structured or semi-structured . Lunh (1958) made the first mention of BI, which has taken the role of phrases like Executive Information. Information Systems for Systems and Management (Negash,2004; Turban et al., 2008; Thomsen,2003).

Since it is anchored in the DSS discipline, BI has seen significant evolution over the past few years and is now a DSS subfield that garners a lot of attention from researchers. Both the business community and academics. The presentation of it as an architecture, tool, technology or system that collects, saves, and evaluates data facilitates reporting, querying, and using analytical tools, and gives knowledge or information that will ultimatelyenable businesses to make better decisions(Negash,2004; Turban et al., 2008;Thomsen, 2003).

Section A-Research paper

ISSN 2063-5346

A Systematic Review on the Methods Developed to Detect COVID-19 Patients

Rayudu Srinivas
Professor and Head Department of CSE
Nadimpalli Satyanarayana Raju Institute of Technology
Visakhapatnam
hodcse@nsrit.edu.in

Anil Kumar Muthevi
Associate professor and Head of the Department
Aditya College of Engineering & Technology, Surampalem, India.

N. Praveen
Assistant Professor
Aditya College of Engineering , Surampalem, India

Shaik. Vahida
Assistant Professor
Aditya College of Engineering and Technology, Surampalem, India.

Surya Lakshmi Kantham Vinti
Assistant Professor
Aditya College of Engineering and Technology, Surampalem.

N. Madhuri
Assistant Professor
Aditya College of Engineering and Technology, Surampalem, India.

Abstract

A review has been presented in this paper on "Methods developed to detect COVID-19 patient" and Bibliometric survey presented based on the methods developed to detect COVID-19 patients. The first case of Corona virus disease recorded in China in the month of December 2019. Within few days, it spreads all over the world. Most of the researchers still working on methodologies to detect patients who are suffering from this disease using X- ray images and CT images by collecting data from various hospital and standard data sets. To review the papers published on the COVID-19, a search is made using key 'COVID-19' in Scopus database and found 167,008 documents published in the years 2020 and 2021. To review the performance of the methods/ Techniques developed, the Scopus database is used for collecting the papers. The number of documents published to detect COVID-19 patients are 1802 and Bibliometric analysis is conducted on these documents. Out of these documents, paper published on detecting COVID-19 patients using X-ray images having minimum number of citations 11 are used to compare the performance of the method. The statistical analysis and Network analysis is also carried out using VOSviewer1.6.16 software. The Source for all tables and figures is www.scopus.com. The data is assessed on 14thJuly, 2021.

Keywords: COVID-19, Isolation, Pandemic, Network Analysis, Statistical Analysis

Introduction

In Wuhan, a series of pneumonia cases of unknown cause emerged in December 2019[1]. The disease which is spread swiftly in chain and more than 210 countries in the late December 2019 and early of 2020 is named as Coronavirus disease 2019 (COVID-19). The COVID-19 patients do not have common symptoms.

Section A-Research paper

ISSN 2063-5346

A Bibliometric Survey on Tsetlin

Rayudu Srinivas
Professor and Head Department of CSE
Nadimpalli Satyanarayana Raju Institute of Technology
Visakhapatnam
hodcse@nsrit.edu.in
P E S N Krishna Prasad
Professor and Head Department of CSE
Anil Neerukonda Institute of Technology and Sciences
Visakhapatnam

Abstract: In this paper, Bibliometric survey has been carried out on Tsetlin. Tsetlin- an automaton that has learning capability developed M L Tsetlin in 1960s. Recently, Tsetline machines are developed and used in game theory, and may be used in many more upcoming technologies. Recent studies proved that the classification results obtained using Tseltin machines are competitive compared with Decision tree, Random Forest, Neural Networks, Support Vector Machine, Naïve Bayes Classifier and Logistic regression. When the search is made using key 'Tsetlin' in Scopus database, it shows 372 documents as a result. Scopus database is the most trusted database, so most of the researchers are publishing papers in journals cited by Scopus database. Hence, Scopus database is considered to conduct bibliometric analysis in this paper. The statistical analysis is carried out source wise, year wise, area wise, Country wise, University wise and author wise. Network analysis is also carried out using VOSviewer1.6.16 software. The Source for all tables and figures is www.scopus.com. The data is assessed on 24thJuly, 2021.

Key Words: Automata, Boolean Algebra, Classification, Deep Learning, Game Theory, Lattice Theory, Neural Networks, Support Vector Machine, Tsetlin, Tsetlin Machine.

1. INTRODUCTION

The performance of machine learning algorithms is acceptable for many applications as they are giving better results compared to any other models. Deep learning networks accuracy is even better in some applications. In order to implement these applications, an expert is required to build the system or to develop an algorithm. This process is complex and even expensive. A

Industrial Engineering Journal
ISSN: 0970-2555
Volume: 52, Issue 4, April 2023

TEXT SUMMARIZATION USING LONG SHORT TERM MEMORY ALGORITHM

Ms.SINGAMPALLI SINDHU SESHTNA [1], Mr.PAKALAPATI SAI DEEPAK VARMA [2], Ms. KARANAM.B.M.ANUSHA [3], Mr. ROHIT KUMAR MEESALA [4], Dr. K. MADHAVI [5]

1. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173

2. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173

3. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173

4. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173

5.PROFESSOR COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJUINSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173

ABSTRACT:

One of the key features for many domains, including colleges and universities, is maintaining data uniqueness. One of the primary requirements for creating a paper for publication is the use of unique data and a plagiarism check. There is a need for efficient techniques because the current one requires the user to manually rewrite the entirety of the content if there are several pages of content that need to be written. This is a laborious procedure. With the development of artificial intelligence and machine learning, we can create a program that can automate the process of content rewriting. In this project, we're creating an article rewriter or plagiarism remover in Python application that will quickly rewrite all of the given material. In In this project, text summarizer libraries are utilized, and the output of various text summarizer techniques is also compared.

1 INTRODUCTION:

People are overwhelmed by the massive volume of online information and documents as a result of the Internet's rapid expansion. The increasing amount of papers available has necessitated in-depth study in the field of automatic text summarization. is described as "a text constructed from one or more texts, that provides significant information in the original texts, and that is not longer than half of the original texts and typically, significantly less than that." The goal of automatic text summarization is to create a clear, fluid summary while maintaining the main ideas and overall meaning. Several strategies for automatic text summarization have been developed recently and are being used widely in many different fields.

For instance, search engines provide snippets as the paperwork. Additional instances are news websites that provide brief summaries of news stories, typically as headlines to aid browsing, or information extraction techniques. Automated text summarizing is highly difficult because when we summarize a text as humans, we often read the entire text to gain a thorough comprehension before writing a summary that highlights its important ideas. Automatic text summarization is a very challenging and challenging endeavour because computers are not human-like in their knowledge and language abilities. As early as the 1950s, automatic text summarization began to gain popularity. The summarization of scientific texts was a crucial area of research in recent years. With the help of variables like word and phrase frequency, Luhn et al. developed a technique for extracting important phrases from text. They suggested giving the sentences a weight. a document's readability based on its high frequency terms, while omitting words that are extremely common. In addition to the usual frequency-based weights, Ed-mundson et al. proposed a paradigm based on important phrases that used the following three techniques to calculate sentence weight:

(1) Cue Method: Using the presence or absence of specific cue words from the cue dictionary, the relevance of a sentence is determined.

(2) Title Method: The weight of a sentence is determined by adding together all the content words found in the text's title and headers.

(3) Placement Method: This approach makes the assumption that sentences that appear at the start of a document as well as the start of each paragraph are more likely to be meaningful.

Since then, a large body of literature has been written to address the issue of automatic text summarization in order to learn more about more sophisticated methods. Extraction and abstraction are the two main methods used for automatic summarization. Only sentences can be extracted from the original text for extractive summarization algorithms to function since they generate essential passages of the text verbatim. Contrarily, abstract summarizing techniques seek to produce significant information in a novel manner. In other words, they analyze and understand the content using sophisticated natural language processing algorithms to produce a new, concise version that highlights the most important details from the original text. Despite the fact that human-written summaries are typically not extractive, the majority of the summarizing research to date has focused on extractive synthesis. When compared to automatically abstractive summaries, strictly extractive summaries frequently produce better outcomes. This is due to the fact that abstractive summarization techniques deal with issues that are harder to solve than data-driven strategies like phrase extraction, such as semantic representation, inference, and natural language production. In actuality, there isn't a fully abstractive summarization system available

Industrial Engineering Journal
ISSN: 0970-2555
Volume: 52, Issue 4, April 2023

DATATABLE SERVER SIDE PROCESSING CRUD OPERATIONS.

Ms. V. KUMARI CHANDANA [1], Ms. N. GANESH MADHURI [2], Mr. R. MANIKANTA [3], Ms. P. SASI PREETHI[4], Dr. K. MADHAVI [5]

1. **BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173**
2. **BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173**
3. **BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173**
4. **BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173**
5. **PROFESSOR COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173**

ABSTRACT

Given its many benefits and ease of interaction, structural databases are still essential in today's world. Yet, not everyone is capable of creating technical queries that effectively get the needed data from the target database.
Many user interfaces have been created to date to assist non-technical people in interacting with the database. Nonetheless, every system offers a unique user interface for any beginner. These people frequently become bewildered while trying to switch from one interface to another because the functionalities of each interface may eventually differ.
The majority of users, who are not computer specialists, simply need the fundamental operations to interact with the database, such as CRUD (create, read, update, delete), because these interfaces are frequently too difficult to handle. the delete key. In light of these issues, we decided to pursue this initiative. We created a rudimentary website that allows users to interface with the database and carry out their basic tasks. Create, Read, Update, and Delete are the four core permanent database operators that make up the acronym CRUD. The functions that users require in order to create and manage data are simply summed up by the word CRUD. Nevertheless, it's also crucial to protect the database, so to address this, we offered a login mechanism that only permitted access to the database.

1. INTRODUCTION

A database is a well-organized grouping of data that has been organized and is often kept electronically in a computer system. A database management system often oversees a database (DBMS). A database system, frequently abbreviated to just a database, is the collective term for the data, the DBMS, and any applications connected to them. To facilitate processing and data querying, the most popular types of databases currently in use typically model their data as rows and columns in a set of tables. The information is then simple to manage, modify, update, regulate, and organize. For writing and querying data, most databases employ structured query language (SQL). Since their invention in the early 1960s, databases have seen a significant amount of development. databases for navigation, such as The first systems used to store and edit data were the hierarchical database (which depended on a tree-like architecture and only permitted a one-to-many relationship) and the network database (a more flexible model that enabled numerous interactions). These early systems were straightforward but rigid. Relational databases gained popularity in the 1980s, and object-oriented databases did the same in the 1990s. NoSQL databases were created more recently in response to the expansion of the internet and the requirement for unstructured data to be processed more quickly. In terms of how data is gathered, stored, managed, and used today, cloud databases and self-driving databases are pioneers. A database management system, which is a comprehensive database software application, is often necessary (DBMS). A DBMS functions as an interface that allows users to retrieve, change, and control how information is arranged and optimized between the database and its programmes or end users. A DBMS also makes it easier to monitor and manage databases, enabling a number of administrative tasks like performance tweaking, backup, and recovery. Almost all relational databases employ SQL, a programming language, to query, manage, and define data as well as to provide access control. The SQL ANSI standard was first developed at IBM in the 1970s, with Oracle playing a significant role in its development. Since then, SQL has inspired numerous expansions from businesses including IBM, Oracle, and Microsoft. Despite the continued popularity of SQL, new programming languages are starting to emerge. While programming computers, produce, read, and The four fundamental operations of

Industrial Engineering Journal
ISSN: 0970-2555
Volume: 52, Issue 4, April 2023

A NOVEL DEEP LEARNING TECHNIQUE FOR IMAGE TEXT TO SPEECH CONVERSION

Mr. S. VIJAY, Ms. P. DIVYA Ms. M. JAHNAVI ,Mr. G. CHAITANYA
Guide : Dr. K. MADHAVI
1. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
2. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
3. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
4. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
5. Professor COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173

ABSTRACT

There are close to 39 million blind people and around 285 million visually impaired people globally. There is a huge impact on the lives of visually disabled people due to this. Although there have been several attempts made for helping visually disabled to see objects via other alternating means such as sound and touch, the development of text reading device is still at a nascent stage. The system currently in existence either has a limited scope or requires a heavy investment. Therefore, we need a cost effective and truly efficient system that will be able to automatically identify and recite text aloud to visually challenged user base. The main purpose of this project is to create an application to recognize the text character from any natural image and convert it into speech signal. The application should do the same for any PDF document and uploaded image. Along with this the application should also provide features for pace modulation, voice selection options dictionary and image to text output saving capabilities. The scope of this application can be widened to specially-abled people with learning disabilities, young children and various other segments of society. Optical Character Recognition (OCR) is used to extract text from image and Windows API to convert this text into speech.

1 INTRODUCTION

When humans look at a picture, our eyes can easily discern the objects, while robots take much longer to notice things and need training and testing. To get the job done by the machine would involve a lot of confusion. There are efforts being made to locate the solution. Machines find it incredibly challenging to discern between and see objects as human humans. The machinery is careful in this regard. With the aid of a computer and software named object as certain ion, each object in a scene or photograph is scanned by the software using a machine. It is possible to do certain ion and automobile noting characteristics. Artificial neurons are discarded in vast sensory networks, most likely human-made neurons, and the transmission process to determine a thing. You Look Only Once (YOLO), Single Shoot Detector (SSD), and CNN

Industrial Engineering Journal
ISSN: 0970-2555
Volume: 52, Issue 4, April 2023

TO PRESENT A MODEL THAT ENHANCES THE IMAGE QUAITY EFFICIENTLY CORRUPTED BY DIFFFERENT NOISES BY APPLYING ANN AND COMBINATION OF SEVERAL IP ALGORITHMS.

Ms. J. VYJAYANTHI[1], Ms. K. ALEKHYA[2], Mr. A.SAI PRAKASH[3],Mr. M.AVINASH [4], Mr. K.SHANKAR[5]

1. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
2. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
3. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
4. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
5.Associate Professor COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJUINSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173

ABSTRACT

The goal is to conduct picture denoising using fuzzy c-means clustering and artificial neural networks. The algorithm begins by reading an RGB image and converting it to grayscale. The user can then choose between salt-and-pepper, Gaussian, or speckle noise to be added to the image. The method then denoises the image using an artificial neural network. Each of the image's little 4x4 chunks is broken up into a 16-element vector using the algorithm. Then, an artificial neural network with two hidden layers and eight and sixteen neurons each is trained using these vectors. The Levenberg-Marquardt algorithm is used to train the network, with the aim of reducing mean squared error. The network is used to eliminate noise from the full image after training. After that, the code use fuzzy c-means clustering to find the image noise. The output of the denoising network is subjected to the fuzzy c-means method, which groups the pixels into two categories: noise and non-noise. A log-polar map of the image is generated by determining the degree to which each pixel belongs to each of the two groups. The code then computes a number of image metrics, such as the peak signal-to-noise ratio (PSNR), mean squared error (MSE), normalised correlation coefficient (NK), and normalised absolute error (NAE) between the original image and the denoised image. Finally, the code applies a gamma correction to the log-polar map to enhance the noise regions. Three subplots with the denoised image, the noise-added image, and the improved output image are shown for comparison.

1 INTRODUCTION

How accurately an image captures the original scene or subject it reflects is a measure of image quality. A number of elements, such as resolution, sharpness, colour accuracy, and noise, influence an image's quality. The term "resolution" describes the quantity of pixels in an image. The photograph can catch more detail the higher the resolution. How clearly defined the edges of objects in an image are is known as sharpness. While the edges of a blurry image are fuzzy and unclear, the edges of a crisp image are clear and distinct. The degree to which an image's colours accurately reflect those of the actual scene is known as colour accuracy. While an image with wrong colours could appear oversaturated or washed out, an image with accurate colours appears natural and lifelike. Contrast is a measurement of how distinct light and dark parts are; in contrast, low contrast photographs show less differentiation. The term "noise" describes the undesirable visual artefacts that may emerge in an image, such as speckling or graininess. While low-quality photos may contain noticeable noise that might reduce the image's overall visual impact, high-quality images often have little to no noise. A sort of digital photograph known as HDR, or High Dynamic Range, captures a larger spectrum of brightness and colour than conventional images. Multiple photographs of the same scene captured at various exposure levels are combined to produce HDR images, which have a wider dynamic range. The range of brightness levels that can be captured in a single photograph is referred to as the dynamic range of an image. The dynamic range of traditional pictures is constrained by the capabilities of the camera and the scene's lighting. As a result, some portions of the image may be either excessively bright or too dark, making it difficult to see detail there.By merging multiple photos taken at various exposures, HDR photographs are able to capture a larger dynamic rangeThe photos are often taken with an HDR-capable camera or by bracketing, which involves taking several pictures at various exposure levels. The final HDR image is created by merging

Industrial Engineering Journal
ISSN: 0970-2555
Volume : 52, Issue 4, April : 2023

AI Posture Trainer Using Open CV and Media Pipe

Mr K Shankar Associate Professor, Dept. of Computer Science and Engineering,Nadimpalli Satyanarayana Raju institute of technology, Sontyam , Visakhapatnam

P.Chandra Kiran ,N.Swaroop Ganesh, M.S.V Praveen ,CH Bhavya Shree Student, Dept. of Computer Science and Engineering,Nadimpalli Satyanarayana Raju instituteof technology, Sontyam , Visakhapatnam

#219nu1a0588@nsrit.edu.in, #319nu1a0574@nsrit.edu.in, #4 20nu5a0506@nsrit.edu.in , #5 19nu1a05a9@nsrit.edu.in
#1 shankar.cse@nsrit.edu.in

Abstract - *Recently, a lot of people are facing many health issues due to the lack of physical activity. During the pandemic, with social distancing being the major factor, so many workout centers were closed. So people started training at home in the absence of a trainer. Training without a trainer often leads to serious internal and external injuries if a specific workout is not properly done. Our project offers multiple features that can benefit the users to attain their ideal body by providing them with a personalized trainer with a personalized workout and a customized diet plan. We also help our users to connect with people who have similar workout goals because the motivation behind working out increases if we have a workout partner. To achieve this, we are using OpenCV and Media Pipe to identify the user's posture and analyze the angles and the geometry of the pose from the real-time video, and we are using Flask to develop the front end of the web application.*

***Key Words*: BlazePose, Media Pipe, Open CV, COCO Data Set, Open Pose.**

1. INTRODUCTION

We are all aware of how important exercise is to our overall health. Additionally, it is crucial to exercise correctly. Exercising too frequently can result in major damage to the body, including muscle tears, and can even reduce muscular hypertrophy. Nowadays, home workouts are more popular. Additionally, it saves time and is quite convenient.

Also at that time of the pandemic, we understood how important is fitness and how such situations can let us work out in our homes. Sometimes people cannot afford a gym membership and are sometimes shy to work out in the gym and use weights. On the other hand, sometimes people can afford gym and trainers but because of tight schedules and inconsistency, they are not able to spend time on their body and fitness.

At that point, AI personal trainers started to appear. Since there are already so many digital fitness programmers and digital coaches, the term "AI personal trainer" is no longer a fresh one.

To begin, let's define an AI personal trainer for those who are unfamiliar with it. "AI personal trainers are artificial intelligence-powered virtual trainers who assist you in achieving your fitness goals. The computerized personal trainer may provide you with tailored training and diet regimens after gathering a few facts such as body measurements, current fitness level, fitness objectives, and more."

Nowadays, Every person needs a customized trainer, which takes time and money to provide. Artificial Intelligence technology, therefore be used to speed up the customizing process by determining the best exercise regimen for a certain student's demands or preferences.

Therefore, our goal is to create an AI-based trainer that will enable everyone to exercise more effectively in the comfort of their own homes. The aim of this project is to build an AI that will assist you in exercising by calculating the quantity and quality of repetitions using pose estimation. This project is intended to make exercise easier and more fun by correcting the posture of the human body and also by connecting with people having similar workout goals.

This study presented an objective discussion of the usage of AI technology to select a suitable virtual fitness trainer based on user-submitted attributes.

2. RELATED WORK

Initially, it started with body posture detection proposed by Jamie Shotton et al., [1] who used the Kinect Camera, which produces 640x480 images at a frame rate of 30 frames per second with a few centimeters of depth resolution. The depth image characteristics show that pixels are being identified. These characteristics work well together in a decision forest to distinguish all trained sections even though individually they merely provide a weak indication of which region of the body the pixel is

IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Detection Of Chronic Kidney Disease (CKD) Using ML Algorithms

Mr.K.Shankar [#1], Ms. P.Bhargavi [#2], Mr.M.Manikanta [#3], Ms.T.Udayasri [#4], Mr.S.Sujith [#5],

[#1]Associate Professor, [2, 3,4,5 B.Tech] Students

Department of Computer Science & Engineering,

NS Raju Institute of Technology (NSRIT), Sontyam,Pendurthi- Anandapuram Highway, Visakhapatnam-531173

ABSTRACT

A major global health issue with a high morbidity and mortality rate, chronic kidney disease (CKD) also causes other diseases. Patients frequently overlook the disease in the early stages of CKD since there are no evident symptoms. Early diagnosis of CKD enables patients to receive effective treatment in time to slow the disease's progression. Due of their rapid and precise recognition performance, machine learning models can help physicians attain this goal in an efficient manner. In this paper, we suggest a machine learning approach for CKD diagnosis. The Irvine(UCI) machine learning repository provided the CKD data set, which contains a significant amount of missing values.. Although patients may overlook particular measurements for a variety of reasons, missing data are frequently observed in real-world medical settings. Six machine learning algorithms (logistic regression, random forest, support vector machine, k-nearest neighbour naive bayes classifier, and feed forward neural network) were used to create models after the incomplete data set was successfully filled in. Of these machine learning models, random forest had the highest accuracy. We created an integrated model that combines logistic regression and random forest by employing perceptron, which has the best accuracy; as a result, we hypothesised that this methodology may be used to more complex clinical data for disease diagnosis.

KEYWORDS:

Logistic Regression, Random Forest Classifier, Decision Tree Classifier, Chronic Kidney Disease.

1. INTRODUCTION

The adverse effects of chronic kidney disease (CKD), which include renal failure, cardiovascular disease, and early death, are a serious public health concern worldwide [1]. Chronic kidney disease (CKD), which rose from 27th place in 1990 to 18th place in 2010 according to the Global Burden of Disease Study (GBDS), is one of the top causes of death worldwide [2]. Over 500 million individuals globally suffer from chronic renal disease [3, 4], with South Asia and sub-Saharan Africa bearing a disproportionately high burden [5]. In high-income countries, there were 110 million people with CKD (men 48.3 million, women 61.7 million), but in low- and middle-income nations, there were 387.5 million [6].

Industrial Engineering Journal
ISSN: 0970-2555
Volume: 52, Issue 4, April 2023

PLANT LEAF DISEASE DETECTION USING CONVOLUTIONAL NEURAL NETWORK

Ms. S. UMA [1], Ms. P. JYOTHI [2], Ms. M. RAMYA [3], Mr. N. ARAVIND KUMAR [4], Ms. G. APARANJINI [5]

1. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
2. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
3. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
4. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
5. Assistant Professor COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173

ABSTRACT

Early plant leaf disease is a significant problem in agriculture. The use of planticides is the simplest method for controlling the plant infection. Yet, overusing plant pesticides is bad for both humans and other animals and plants. To stop plant infection, integrated plant management combines biological and physical techniques. The methods of digital image processing and machine Processing is widely used in agricultural research and has significant potential, particularly in the field of plant protection, which ultimately leads to crop management. It deals with a novel kind of plant early detection device. Using a digital camera, pictures of plant leaves that have been impacted are taken. Images of the plant's leaves are processed to create a grayscale image. the detection of plants on leaves utilising feature extraction and image classification algorithms. Digital cameras are used to capture the photographs. After that, the photographs are uploaded to a computer and represented using Python software. The grayscale image created from the RGB image is then processed using feature extraction methods. The plant types are categorised using the Support Vector Machine classifier and the Convolutional Neural Network.

1. INTRODUCTION

Agrarian India is a nation. Agriculture is the primary source of income for 70% of the population. Thus, increasing crop productivity is a crucial issue right now. The majority of scientists are conducting study in this area. This is quite simple to do by utilising their innovative approaches and realistic applications. Yet, one of the most significant issues at the moment is plant infection. This largely focuses on crops grown in greenhouses. Several types of crops are grown in greenhouses. For instance, fruits and vegetables like cucumber, tomato, and potato as well as flowering plants like rose and jasmine. Whiteflies, aphids, and thrips are the most frequent plants that may harm the crops grown in this greenhouse. Using planticides is one method of controlling the plant infection. Plant pesticides will squelch particular plant species. Plant pesticides have a negative impact on the environment and seriously harm eco systems.

Overuse of plant pesticides will contaminate the air, water, and soil. Planticide suspensions that are carried by the wind contaminate other places. Here, we emphasise the early detection of plants. This suggests that the plants should be regularly observed. Cameras are used to capture images. The acquired image must then be analysed using image processing techniques to decipher its information. The interpretation of images for plant detection is the main topic. Let's start by discussing what machine learning is and isn't before delving into the specifics of various machine learning techniques. The field of machine learning is frequently considered to be a branch of artificial intelligence, Nonetheless, I believe that categorisation can frequently be deceptive at first glance. It's true that research in this area gave rise to the study of machine learning, but when applying machine learning techniques in data science, it's more useful to conceive of machine learning as a way to create models from data. Machine learning is fundamentally about creating mathematical models to better comprehend data. When we provide these models adjustable parameters that may be tailored to the observed data, "learning" enters the picture. In this sense, the programme can be thought of as "learning" from the data. These models can be used to predict and comprehend elements of newly obtained data after being fitted to previously seen data. I'll let the reader to deal with the longer digression into philosophy how closely this kind of mathematical, model-based "learning" resembles the "learning" that the human brain engages in. To properly use these tools, it is crucial to understand the issue setting in machine learning. To that end, we will begin by dividing the various types of approaches we'll be talking about into several general categories.

Any type of processing when the input is an image, a sequence of images, or a video, such as a snapshot or a frame from a movie, is referred to as image processing. A set of attributes or parameters connected to the image may also be produced as a result of image processing. It also refers to "Computer-aided image analysis and manipulation." These three processes are used to process images:

• To begin, import photographs using optical devices such as Using a camera, scanner, or other digital device is also acceptable.

• Alter or analyse the photographs in some way second. This step may involve data summarization and picture enhancement, or the images may be examined for rules that the human eye cannot detect. This processing, for instance, is used by meteorologists to analyse satellite images. Finally, publish the finished image. The outcome could be an altered image or a report based on an examination or outcome of the images.

Industrial Engineering Journal
ISSN: 0970-2555
Volume: 52, Issue 4, April 2023

ERROR SOLVER USING A CHATBOT

Mr.CH.L.CHARAN SAI [1], Ms.K.SAHITHI [2], Ms.A.VATSAVI [3], Mr.A.PREETHAM [4], Mrs.J. Santoshi Kumari [5]

1. **BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173**
2. **BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173**
3. **BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173**
4. **BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173**
5. **Assistant Professor COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173**

ABSTRACT

Everyone who writes code experiences a phase where there are too many errors, which aggravates the developers and reduces the project's productivity. Lack of error-solving abilities brought on by insufficient programming expertise is the fundamental demotivator for a beginner programmer.
For most beginning programmers, it may be difficult to locate and resolve issues.
As a result, we have chosen to deploy a chatbot to address this problem because it will provide the best solution given the faults.
The majority of programming errors were predefined for newbies, while the remainder were instructions on where to get resources and how to display them to users.
This leads to unfinished projects and incomplete work duties. With competent help, one can understand and resolve this issue with ease. A thorough understanding of all compile-time errors will raise a person's coding productivity and motivation, both of which are important for maintaining consistency as a programmer.
The major goal of this project is to assist inexperienced programmers in fixing issues that arise during their programming sessions by creating an interactive chatbot that aids the user in fixing software errors.

1 INTRODUCTION

More individuals will be able to use and build chatbots as a result of explanations of what they are, what to use them for, and how to make them. This will hasten the growth of the chatbot ecosystem. Technology innovation and the development of new solutions can assist in automating and simplifying more activities, allowing individuals to concentrate on more fascinating problems and complete more tasks. Chatbots have the ability to streamline and automate a variety of current tasks, accelerating the development of technology as a whole. A chatbot is a computer software created to mimic human communication, frequently using text or voice interactions, with the intention of giving users support or information. Artificial intelligence (AI) and natural language processing (NLP) technologies are used by chatbots to interpret customer enquiries and provide intuitive, natural responses. Chatbots can be designed to carry out a wide range of functions, including organising appointments, responding to commonly asked queries, offering customer service, and even processing orders. To improve user experiences and automate particular procedures, they can be linked into a variety of platforms, including chat apps, websites, or mobile applications. Chatbots' capacity to respond to users instantly and individually, without the need for human intervention, is one of their main advantages. Also, they may work around the clock, which can save firms time and money. Currently, chatbots are used in a wide range of industries and applications, ranging from healthcare and entertainment are included, as well as education and e-commerce. As a result, chatbots can offer consumers enjoyment as well as support in a variety of fields. This is the case with chatbots like Mitsuku and Jessie Humani, which focus on "small talk" and may help users feel more connected to others. In fact, users seem to find chatbots to be more interesting than a website's static Frequently Asked Questions (FAQ) page. When compared to human customer care services, chatbots are more productive and less expensive because they can assist several consumers at once. Chatbots can be used to amuse and comfort end users in addition to offering support and help to clients. Yet, there are several levels of embodiment, including how chatbots resemble humans and disclosure.

Users' involvement with and confidence in chatbots seem to be impacted by how and when the nature of the chatbot is exposed to the user. Users' involvement with and trust in chatbots seem to be impacted when the nature of the chatbot is known to them.

Industrial Engineering Journal
ISSN: 0970-2555
Volume: 52, Issue 4, April 2023

EMPOWER SKILLED ILLITERATE PEOPLE THROUGH WEB APPLICATION

Mr. G.S.V.GOWTHAM [1], Ms. B.KUMARI [2], Ms. A.LAKSHMI PRASANNA [3],Ms. G.PAVANI [4], Mr. K.PRAVEEN KUMAR [5], Mrs. J.SANTOSHI KUMARI[6]

1 BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA – 531173
2 BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA – 531173
3 BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA – 531173
4 BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
5 Assistant Professor COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJUINSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173

ABSTRACT

In current days, there are innumerable Web apps helpful for literates but very few for skilled illiterates to work, so for those skilled illiterate people need a guidance in finding their willing work The idea EMPOWER ILLITERATE helps in suggesting the skilled illiterate people to find work. Here there will be an interface provided for both the client and the hiring employee such that to hire the skilled worker the employee, can contact through the respective phone number. The provided interface is made up of with the simple Web Development knowledge HTML, CSS, Java script/PHP and using an Apache Http Server. The entire information or the data provided by worker and the process of hiring is stored in the database using MYSQL database management system. This EMPOWER ILLITERATE makes the hiring person and the worker task easier in getting job accompanied by the hiring manager . Our idea is to provide a framework for medium connecting people who are looking for work and those who are looking to hire workers. There are many illiterates who have good skill in carpentry ,farming ,driving ..etc but unable to find work Skilled people who are searching for work need to specify their skill and phone number on our platform Those who want to hire can contact workers through the phone number.This web application provides a platform for both hire and hirer. As illiterate people are unaware of internet they are instructed to go nearby helping centers like (mee-seva ,make in India,digital India or any) for registering. Phone number plays an important role because we are dealing with uneducated people.

1 INTRODUCTION

The reading abilities needed by a person in today's world to properly participate in all spheres of his personal, social, economic, and political life continue to evolve under circumstances that become more complex. Information and communication technologies (ICTs) have given rise to new types of literacy that are "multiple, multimodal, and multifaceted." (Corio et al., 2008). People feel it vital to improve reading abilities that can enable them to traverse texts with various formats, degrees of expression, and argumentation styles in order to access the fast pervasive computer and avoid being excluded from a society that advances based on ICTs.

This ambitious work, which is grounded in empirical research, aims to provide a synthesis of recent concepts in the adult literacy field. It is divided into two sections: a definition of empowerment in the context of literacy and a discussion of the research on the effects of literacy on empowerment. In this essay, I take the stance that literacy is a set of cognitive abilities required to interpret written communication. In addition to being used for effective functioning in one's environment, these skills can also be used for personal and social transformation (OECD & Statistics Canada,

GENERATIVE ADVERSARIAL NETWORKS USING MACHINE LEARNING

Ms. CH.PAVANI KUMARI [1], Mr. G.D.RAM SAHU [2], Mr. K.DEEPAK [3], Mr. K.BHANU PRAKASH [4], Mr. A.PRUDHVI JAYA KUMAR [5], Mrs.A.KAMALA PRIYA [6]

1. **BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173**
2. **BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173**
3. **BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173**
4. **BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA – 531173**
5. **BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173**
6. **Assistant Professor COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173**

ABSTRACT

During the design thinking and ideation process, designers' propensity to stick to a particular mental frame and high emotional involvement in their first ideas frequently impede their capacity for innovation. The increasing diversity of consumer wants, the fierce worldwide rivalry, and the shortened time-to-market (also known as "quick fashion") in the fashion business, in particular, make this problem for designers even more difficult. Recent developments in deep generative models have opened up new avenues for automated production and/or editing of design concepts, which can help designers overcome cognitive challenges. The ability of generative adversarial networks (GAN) to automatically edit design concepts at the attribute level is examined in this research. In particular, attribute GAN (AttGAN) is used for automated editing of the visual qualities of clothing and evaluated on a sizable fashion dataset. AttGAN is a generative model shown successful for attribute editing of human faces. The trials underline numerous important limits and research problems that need to be addressed in subsequent work, while also supporting the hypothesised potentials of GAN for attribute-level editing of design concepts.

1 INTRODUCTION

The most recent development in the field of image retrieval and classification is convolutional neural networks (CNN). With CNN, a type of Deep Neural Network (DNN), research data that is ingrained and processed in industrial and commercial applications can be put to useful use. It is used for image processing, identifying human actions, and classifying fashion-related images.
The LeNet-5, AlexNet- 11, VGG-16, and ResNet-20 versions of CNN are the focus of this study's analysis. A fashion dataset from the Kaggle website is used for analysis. TensorFlow is used to programme a distance function training procedure. The four CNN models' outputs are then examined and compared in order to determine which model is the best. The fashion sector is advised to adopt the model that performs well for classification, as well as any third-party vendors or customers that are interested in building their own personal fashion closets using web data.

2. LITERATURE SURVEY AND RELATED WORK

CNNs are specialised neural networks in charge of processing data whose input shape resembles an image of a 2D matrix. They are utilised in image categorization, pattern identification, and image detection. Pictures or photos are essentially composed of pixels arranged in a matrix, and the learned distance function of the CNN is useful for identifying an image and/or classifying it according to pre-annotated categories. Convolution is essentially a mathematical procedure with inputs I and argument and a kernel K giving an output useful for comprehending how shapes are transformed. The CNN is a complex neural network. As the window moves across the entire image, a convolution is a weighted sum of the pixel values. It turns out that using a weight matrix to convolution an image throughout creates a different image (of the same size, depending on the convention). Applying a convolution is known as convolution. The convolution function creates a feature map. The array is laid up in various RGB colour channels if an image x in a given image contains pixels in the 2D format. The feature map will be produced using a feature detector, also known as the kernel, represented by'. S[t] stands for feature map, X for input, and W for kernel in the function below. Image identification and categorization are carried out by computing the similarity of signals as part of the convolution process. Any CNN typically has multiple convolutional layers, which results in the generation of numerous different convolutions. As a result, the weight matrix for the calculation will be a tensor with the form 5 *5* n, where 'n' stands for the CNN's convolutional layer.

Schindler demonstrates how CNN is applied to the classification of fashion images. Researchers use images of clothing to classify them into pre-annotated groups, such as those for skirts, jeans, sports shoes, etc. In order to classify, CNN is used. That categorization is already used by several active online retailers.
Businesses like Asos-EU 1, Farfetch 2, and Zalando 3 give customers access to product data, including image and information data.

Industrial Engineering Journal
ISSN: 0970-2555
Volume: 52, Issue 4, April 2023

STOCK MARKET PREDICTION USING MACHINE LEARNING ALGORITHMS

Ms S.V.S. VALLI[1], Mr. S. AMRUTH RAJ[2], Mr. N. JEEVAN SAiI[3],Ms. K. LAVANYA[4], Mrs. Khadarunnisa[5]

1. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
2. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
3. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
4. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
5. Assistant Professor COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173

ABSTRACT

Stock price prediction using machine learning makes it feasible to determine the future value of company stocks and other financial assets traded on an exchange. Making stock price forecasts is done with the intention of making substantial profits. Please be aware, however, that it is impossible to forecast the stock's exact price. The forecast takes into account additional factors, such as biological and psychological factors, as well as rational and irrational behaviour. These factors combine to produce a volatile and dynamic share market. As a result, making accurate stock price predictions is quite difficult. Here, we'll build a project that calculates stock values using a linear regression model and the Python programming language. A publicly traded company's stock prices can be used as historical information. We will employ a variety of machine learning techniques to forecast the future stock price of this company, starting with simple ones like linear regression. Because financial stock markets are unpredictable and nonlinear, it is difficult to predict stock market returns with any degree of accuracy. The development of artificial intelligence and improved processing power has made programmed prediction systems more effective at forecasting stock prices. In this study, the closing prices of five businesses from various industry sectors were predicted using Artificial Neural Network and Random Forest methodologies.

1 INTRODUCTION

In the investment world, analysing financial data in securities has been a significant and difficult problem. Due to the conflicting impacts of information rivalry among significant investors and the unfavourable selection costs imposed by their knowledge advantage, stock price efficiency for publicly traded companies is challenging to accomplish.

The two primary schools of thinking used to analyse the financial markets are as follows. The first strategy is referred to as fundamental analysis. Through qualitative and quantitative examination, the fundamental analysis approach determines a stock's intrinsic worth in order to appraise it. This method looks at the managerial, market, micro, and macroeconomic elements of an organisation.

Technical analysis is the name for the second strategy. The method utilised by technical analysis to predict price direction is the analysis of past market data. A number of charts are used in technical analysis to predict what is likely to happen. The several types of stock charts include candlestick, line, bar, point-and-figure, OHLC (open-high-low-close), and mountain charts. The charts can be viewed with price and volume in a variety of time intervals. The charts use a variety of indicators, including breakout, trending, momentum, resistance, support, and breakout.

There are a number of different ways to handle this kind of issue, ranging from conventional statistical models to approaches based on computational intelligence and machine learning. Vanstone and Tan conducted a review of the literature on using

Industrial Engineering Journal
ISSN: 0970-2555
Volume: 52, Issue 4, April 2023

HAND-WRITTEN CHARACTER RECOGNITION

Ms. P. Devi[1], Mr. P. Harshvardhan[2], Ms. M. Manasa[3], Mr. S. Mohammad[4], Mrs M. Bhargavi[5]

1. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
2. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
3. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
4. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
5. Assistant Professor COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173

ABSTRACT

Handwritten character recognition is a technique for reading handwritten text using a machine interface. The form, size, and location of handwritten characters vary from one writer to the next, posing difficulties even when the same author uses the same character. In the realm of image processing, handwritten character recognition has proven to be one of the most difficult problems to solve. Bank checks and the conversion of any handwritten document into digital text form are only two of its many uses. There is a clear requirement to store information from handwritten images on desktop storage so that it can be processed again by computers in the future. Nevertheless, reading the other data from these image files would be exceedingly challenging to re-process this information. Consequently, a method to automatically decode and store data from image files is required, especially text. This study tries to categorise a single handwritten word in order to convert handwritten material for English alphabets into a typed or editable form. For this challenge, we employed Convolutional Neural Networks. We developed a model that can correctly anticipate words using this architecture. According to trends, the market value for these applications will rise tremendously in the future.

1 INTRODUCTION

The goal of this software algorithm project, "Handwritten Character Recognition," is to accurately recognise any handwritten character on a computer with input from a mouse, pen, or an old optical image.

Character recognition—often reduced to OCR or optical character recognition—is the mechanical or electronic conversion of images of handwritten, typewritten, or printed text into text that may be edited by computers. This area of study focuses on machine learning, artificial intelligence, and pattern recognition. Although academic research in the area is still being done, the emphasis on character recognition has switched to the use of tried-and-true methods. A computer can learn, comprehend, improvise, and interpret written or printed characters using a technique called optical character recognition. own language, but display in accordance with the user's specifications. Optical Character Recognition employs an image processing technology to recognise any character that has been manually or mechanically typed or printed. In this field, a lot of work has been done. However because algorithms need to have higher recognition accuracy, more persistency in the amount of right predictions, and longer execution durations, OCR approaches are constantly being improved.

Creating effective algorithms that accept input in digital image format is the idea. The image is then processed for better comparisons. The processed image is then compared to a library of font images that are already on hand. The character's forecast is presented in the final stage as a percentage of accuracy.

even though we Despite the availability of numerous typing and writing technologies, many people still use paper and a pen to record information they gather. Because this type of information is difficult to access, store, and share with others, this project aids in the conversion of handwritten data into text formats that can be quickly stored on any physical device or in the cloud and accessed whenever necessary.

Industrial Engineering Journal
ISSN: 0970-2555
Volume: 52, Issue 4, April 2023

Diabetic Retinopathy Detection using Convolutional Neural Network

Ms CH. Yasawani [1], Mr. K. Arun Varma [2], Ms. B.Rishitha [3],Mr. K. Bhargav
Guide: Ms P Sahithi[5]

1. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
2. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
3. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
4. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
5. Assistant Professor COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJUINSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173

ABSTRACT

In order to automate the identification of diabetic retinopathy (DR) using colour fundus retinal pictures, we suggest a convolutional neural network (CNN) technique. To recognise retinal characteristics like micro-aneurysms and hemorrhages, our network employs CNN and denoising. Our models were created using Theano, an open-source numerical computation tool built on Python. Using a potent GPU and a free Kaggle dataset, we trained this network. On more than 3,000 validation images from a data set of more than 30,000 photos, our model achieves over 95% accuracy for two class classification and over 85% accuracy for five class classification.

1 INTRODUCTION

1.1 DiabeticRetinopathy

Diabetes patients may develop the disease known as diabetic retinopathy.The retina, the light-sensitive lining in the back of the eye, suffers gradual damage as a result. Diabetic retinopathy is a serious sight-threateningcomplicationof diabetes.Diabetes impairs the body's capacity to utilise and store sugar. (glucose).

The condition is characterised by an excess of sugar in the blood, which can harm many body parts, including the eyes. Diabetes over time harms tiny blood vessels all across the body, including the retina. When these tiny blood vessels leak blood and other fluids, diabetic retinopathy develops. As a result, the retinal tissue swells, causing vision to become hazy or blurry. Usually, both eyes are affected by the illness.The likelihood of developing diabetic retinopathy increases with the duration of diabetes.Diabetes cretinopathy can result in blindness if neglected.

Having a dark, empty space in the centre of your vision, seeing spots or floaters, blurred vision, and difficulty seeing well at night are all signs of diabetic retinopathy.

What is the treatment for diabetic retinopathy?
Blood and fluid leaking into the retina can be stopped using laser therapy (photocoagulation). In order to try to plug the leaks, tiny burns can be made in parts of the retina with aberrant blood vessels using a laser beam.
The stage of the disease determines the course of treatment for diabetic retinopathy.Any form of treatment aims to delay or halt the disease's course.

Regular monitoring could be the only remedy for non-proliferative diabetic retinopathy in its early stages. Following your doctor's recommendations for food, exercise, and blood sugar management can help slow the progression of the illness.
Drugs are injected into the eyes to prevent the growth of aberrant blood vessels and may lessen the harmful effects of diabetic retinopathy. Macular edoema can develop if the disease progresses and the aberrant blood vessels leak blood and

Industrial Engineering Journal
ISSN: 0970-2555
Volume: 52, Issue 4, April 2023

DIABETES PREDICTION WITH GENETIC OPTIMIZATION

Ms. GAYATHRI DEVI[1], Mr. P.DHARMA TEJA[2], Mr. M. VAMSHI[3], Mrs.L.T.PRIYANKA[4]
1. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
2. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
3.BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
4. Professor COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173

ABSTRACT

All of the cells and organs in our bodies depend on glucose, sometimes known as sugar, as a major energy source. Diabetes is caused by a continuous, excessive rise in blood sugar or glucose levels over the desirable range. Diabetes is identified through blood sugar tests on individuals. By eliminating human judgement and producing precise findings, computer vision plays a significant role in the field of human health. The improvement of diabetes classification is the main goal of this study. In this article, we concentrate on comparing algorithms to improve the predictive model's performance by utilising data mining and machine learning techniques. The UCI machine supported the "Pima Indians Diabetes Dataset" Standard, which we used.
learning archive**.** To improve the dataset's potential, feature selection is done. To assess the effectiveness of the model, a variety of algorithms are performed to the dataset, including Support Vector Machine (SVM), Naive Bayes, Decision Trees, K-Nearest Neighbors (KNN), Logistic Regression, and voting classification. To recommend the best classifier for the sample dataset, evaluation measures including Precision, Recall, Specificity, and mean absolute error are generated for each model. To compare the model's accuracy, Waikato Environment for Knowledge Analysis Toolkit was utilised. To improve generalisation of accuracy, cross-validation is used. The conclusion shows that the SVM algorithm has a 78% accuracy rate. So, it appears that the research will help in type 2 diabetes prediction (T2D).
KEY WORDS: SVM,KNN,UCI

1 INTRODUCTION

Diabetes is a condition that reduces the ability of the body to release insulin. Glucose is produced in the blood from the food we eat. By delivering glucose to the cells, insulin controls blood sugar levels. These cells carry out their specific role by converting glucose into energy. Blood glucose levels rise as a result of inadequate insulin secretion.
Type 1, Type 2, and gestational diabetes are the three main subtypes [1].
Insufficient insulin production is the primary cause of type 1 diabetes. The body's beta cells that make insulin are destroyed by the immune system. As the body produces relatively little insulin, insulin must be administered intravenously to the body in order to keep blood glucose levels stable.
Despite being present in adults, it is most common in children. Type 1 diabetes is an unclear specific cause, however there are some things that may indicate a higher risk, such as family history, environmental variables, and the presence of immune system cells that can cause damage.
Because type 2 diabetes does not use the glucose produced by the body, it is also known as insulin resistance. Diabetes is brought on by a massive buildup of glucose in the blood. It affects adults the most frequently. Researchers are still trying to figure out why some people get type 2 diabetes and others don't. Yet, it is obvious that some factors—including weight, race, family history, age, high blood pressure, abnormal cholesterol, and family history—increase the risk.
Pregnancy is the primary cause of gestational diabetes. shift in
This situation is caused by the hormones generated. Only during pregnancy does it occur. The unborn child will probably develop type 2 diabetes in the future. Excessive growth, low blood sugar, type 2 diabetes later in life, and even death are complications that might affect your unborn child. Age, a family history of the condition, weight, and race are all risk factors for gestational diabetes.

International Journal of Scientific Research in Computer Science, Engineering and Information Technology
ISSN : 2456-3307 (www.ijsrcseit.com)
doi : https://doi.org/10.32628/CSEIT228377

Face Mask Detection using Open-Source Computer Vision Library and Scikit-Learn using Machine Learning

G. Poojitha[*1], S. Ganesh Kumar[2], G. Harsha Vardhan[3], M. Bhargavi[4], Mr. Vishwanadha Reddy[5]
[*1,2,3,4] Department of Computer Science & Engineering, NS Raju Institute of Technology, Visakhapatnam, Andhra Pradesh, India
[*5]Assistant Professor Department of Computer Science & Engineering, NS Raju Institute of Technology, Visakhapatnam, Andhra Pradesh, India

Article Info
Volume 8, Issue 3
Page Number : 282-288

Publication Issue :
May-June-2022

Article History
Accepted: 01 June 2022
Published: 07 June 2022

ABSTRACT

In this pandemic has rapidly affected our day to-day life disrupting the world trade and movements. Wearing a protective face mask has become anormal. In the near future, many public service providers will ask the customers to wear masks correctly to avail of their services. Therefore, face mask detection has become a crucial task to help global security. This project presents a simplified approach to achieve this purpose using some basic Machine Learning packages like OpenCV and Scikit-Learn. The proposed method detects the face from the image correctly and then identifies it has a mask on it or not. As a surveillance task performer, it can also detect a face along with the mask in motion. This method attains accuracy almost up to 90% on two data sets. We explore optimized values of parameters using the Viola Jones detection framework used to detect the presence of masks correctly without causing over-fitting.

Keywords: COVID-19, Coronavirus, Face mask detection, Voila-Jones algorithm, Open Computer Vision (OpenCV), Deep learning, Masked Face Detection Dataset (MFDD), Real-world Masked Face Recognition Dataset (RMFRD) and Simulated Masked Face Recognition Dataset (SMFRD).

I. INTRODUCTION

Coronavirus is a sort of sars-cov-2 infection that has stunned the world and was remembered for Indonesia in mid 2020, where this infection rose up out of China, Wuhan City. There are at present upwards of 65 nations tainted with the Covid, where consistently the quantity of cases in every nation keeps on expanding over the long haul. This Covid is possible gotten from creatures that are sent to people. Accordingly, the transmission cycle isn't known with conviction however it very well may be anticipated that transmission between people through drops and contact with infections delivered in drops. Thusly, everybody is expected to wear a veil or mouth cover so the gamble of contracting contact might be more

IJNRD.ORG ISSN : 2456-4184
INTERNATIONAL JOURNAL OF NOVEL RESEARCH AND DEVELOPMENT (IJNRD) | IJNRD.ORG
An International Open Access, Peer-reviewed, Refereed Journal

DIABETES PREDICTION USING MACHINE LEARNING

N. Viswanadha Reddy*,[1] P. Manoj Kumar, [2]V. Sri Rama Raju, [3]G. Sai Dharma, [4]D. Pavan Kalyan

*Assistant professor, Department of CSE (AIML)

[1]Student, Department of CSE(AIML)

Nadimpalli Satyanarayana Raju Institute of Technology, Visakhapatnam, AP, India

Abstract: Diabetes is an illness caused because of high glucose level in a human body. Diabetes should not be ignored if it is untreated then Diabetes may cause some major issues in a person like: heart related problems, kidney problem, blood pressure, eye damage and it can also affect other organs of human body. Diabetes can be controlled if it is predicted earlier. To achieve this goal this project work we will do early prediction of Diabetes in a human body or a patient for a higher accuracy through applying, Various Machine Learning Techniques. Machine learning techniques Provide better result for prediction by con- structing models from datasets collected from patients. In this work we will use Machine Learning Classification and ensemble techniques on a dataset to predict diabetes. Which are K-Nearest Neighbor (KNN), Logistic Regression (LR), Decision Tree (DT), Support Vector Machine (SVM), Gradient Boosting (GB) and Random Forest (RF). The accuracy is different for every model when compared to other models. The Project work gives the accurate or higher accuracy model shows that the model is capable of predicting diabetes effectively. Our Result shows that Random Forest achieved higher accuracy compared to other machine learning techniques.

INTRODUCTION

Diabetes is a chronic condition that affects the body's ability to process blood sugar (glucose) properly. It is a major public health concern because of its high prevalence and the associated health complications. Machine learning is a type of artificial intelligence that involves training algorithms on large datasets to make predictions or take actions based on new data inputs. In the context of diabetes prediction, machine learning algorithms can be trained on existing patient data to identify patterns and risk factors that may be indicative of an individual's likelihood of developing the condition. This information can then be used to predict whether a person is at risk of developing diabetes, allowing for early intervention and potentially preventing the development of the condition. There are several different types of machine learning algorithms that can be used for diabetes prediction, including decision trees, random forests, and support vector machines. These algorithms can be trained on various types of data, including medical records, lifestyle and behavioral information, and genetic data. The accuracy of the predictions made by these algorithms can be improved by using larger and more diverse datasets, as well as by incorporating additional information such as family history and medical history.

NEED OF THE STUDY.

The main objective of diabetes prediction is to identify individuals who are at high risk of developing diabetes and to take appropriate action to prevent or delay the onset of the disease. This can include lifestyle changes, such as improving diet and increasing physical activity, or medical interventions, such as medication or blood sugar monitoring. By identifying individuals at high risk of developing diabetes, healthcare providers can take steps to prevent or delay the onset of the disease, which can improve the individual's health and reduce the burden of diabetes on society.
This experiment helps to detect the disease of the diabetes before it affects fully and as per the instructions, we can take care to avoid the disease. So, this helps to improve the identification and management of individuals at high risk of developing the disease.

Industrial Engineering Journal
ISSN: 0970-2555
Volume: 52, Issue 4, April 2023

FAKE CURRENCY DETECTION USING OPENCV

Mrs Jaya Pradha Sr Assistant Professor, Dept. of Computer Science and Engineering,Nadimpalli Satyanarayana Raju institute of technology, Sontyam , Visakhapatnam

T.Harika, T.Bhavani Shankar , Y.Katyayani Sudarsini Student, Dept. of Computer Science and Engineering,Nadimpalli Satyanarayana Raju instituteof technology, Sontyam , Visakhapatnam

#219nu1a05a7@nsrit.edu.in, #319nu1a05a8@nsrit.edu.in, #4 19nu1a05c1@nsrit.edu.in

#1 jayaprada.cse@nsrit.edu.in

Abstract - *Fake currency refers to counterfeit money that is produced with the intent to deceive and defraud people. Counterfeiters use various methods to create fake currency, including printing equipment, chemical processes, and digital manipulation. The use of fake currency can have serious consequences, as it undermines the integrity of financial systems and can lead to economic instability. In many countries, the production and distribution of fake currency is illegal and punishable by law. In order to combat this problem, governments and financial institutions implement various security measures, such as special paper, security threads, watermarks, and holograms, to make it more difficult to create counterfeit money. Additionally, advances in technology, such as the use of machine learning algorithms for image recognition, can help to identify fake currency and prevent its circulation.*

***Key Words*: Keras,RestNet50,Open CV, Data Set.**

1. INTRODUCTION

The Reserve Bank is only one which has the sole authority to issue bank notes in India. Reserve Bank, like other central banks the world over, changes the design of bank notes from time to time. Traditionally, anticounterfeiting measures involved including fine detail with raised intaglio printing on bills which allows non-experts to easily spot forgeries. On coins, milled or marked with parallel grooves edges are used to show that none of the valuable metal has been scraped off. Reserve bank uses several techniques to detect fake currency.

Manual testing of all notes in transactions is very time consuming and untidy process and also there is a chance of tearing while handing notes. Therefore, Automatic methods for bank note recognition are required in many applications such as automatic selling goods and vending machines. Extracting sufficient monetary characteristics from the currency image is essential for accuracy and robustness of the automated system.

This is a challenging issue to system designers. Every year RBI (Reserve bank of India) face the counterfeit currency notes or destroyed notes. Handling of large volume of counterfeit notes imposes additional problems. Therefore, involving machines (independently or as assistance to the human experts) makes notes recognition process simpler and efficient. Counterfeit money is imitation currency produced without the legal sanction of the state or government.

Counterfeiting is almost as old as money itself. Plated copies have been found of Lydian coins which are thought to be among the first western coins. Before the introduction of paper money, the most prevalent method of counterfeiting involved mixing base metals with pure gold or silver. A form of counterfeiting is the production of documents by legitimate printers in response to fraudulent instructions.

This has led to the increase of corruption in our country hindering country's growth. Common man became a scapegoat for the fake currency circulation, let us suppose that a common man went to a bank to deposit money in bank but only to see that some of the notesare fake, in this case he has to take the blam Counterfeiting.

Therfore our goal is to create an software which classify the curency which we use. The aim of our project is to build an machine learning model. It does this by training a model on a dataset of real and fake images, and then using the trained model to predict the class labels of new images.

2. RELATED WORK

[1] Vivek Sharan, Amandeep Kaur," Detection of Counterfeit Indian Currency Note Using Image Processing" International Journal of Engineering and Advanced Technology (IJEAT), Volume.09, Issue:01, ISSN: 2249-8958 (October2019)

[2] Aakash S Patel, "Indian Paper currency detection" International Journal for Scientific Research & Development (IJSRD), Vol. 7, Issue 06, ISSN: 2321-0613

HEART DISEASE PREDICTION USING MACHINE LEARNING

Mr.VALLE HARSHA VARDHAN [1], Mr.UPPALA RAJESH KUMAR[2], Ms.VANUMU VARDHINI [3],Ms. SABBI LEELA VARALAKSHMI [4],Mr.A.SURAJ KUMAR [5]

1. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
2. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
3. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
4. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA – 531173
5.Assistant Professor COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173

ABSTRACT

In various fields around the world, machine learning is used. There are no exceptions in the healthcare sector. Machine learning can be crucial in determining whether or not there will be locomotor abnormalities, heart ailments, and other conditions. If foreseen far in advance, such information can offer crucial intuitions to doctors, who can then modify their diagnosis and approach per patient. We are attempting to use machine learning algorithms to predict potential heart conditions in humans. In this project, we compare the performance of various classifiers, including Decision Tree, Naive Bayes, Logistic Regression, SVM, and Random Forest. We also propose an ensemble classifier that performs hybrid classification by combining the best features of both strong and weak classifiers because it can use a large number of training and validation samples. In various fields around the world, machine learning is used. There are no exceptions in the healthcare sector. Machine learning can be crucial in determining whether or not there will be locomotor abnormalities, heart ailments, and other conditions. If foreseen far in advance, such information can offer crucial intuitions to doctors, who can then modify their diagnosis and approach per patient. We are attempting to use machine learning algorithms to predict potential heart conditions in humans. In this project, we compare the performance of various classifiers, including Decision Tree, Naive Bayes, Logistic Regression, SVM, and Random Forest. We also propose an ensemble classifier that performs hybrid classification by combining the best features of both strong and weak classifiers because it can use a large number of training and validation samples.

1. INTRODUCTION

The World Health Organization estimates that heart disease causes 12 million deaths worldwide each year. One of the leading causes of morbidity and mortality among the global population is heart disease. One of the most crucial topics in the data analysis area is predicted cardiovascular disease. Since a few years ago, the prevalence of cardiovascular disease has been rising quickly throughout the world. Many studies have been carried out in an effort to identify the most important risk factors for heart disease and to precisely estimate the overall risk. Heart disease is also referred to as a silent killer because it causes a person to pass away without any evident signs. Cardiovascular disease must be detected early. aiding high-risk patients in making decisions regarding lifestyle changes will help to reduce the difficulties.

Making choices and predictions from the vast amounts of data generated by the healthcare sector is made easier with the help of machine learning. By evaluating patient data that uses a machine-learning algorithm to categorise whether a patient has heart disease or not, this study hopes to predict future cases of heart disease. Machine learning methods can be extremely helpful in this situation. There is a common set of basic risk factors that determine whether or not someone will ultimately be at risk for heart disease, despite the fact that heart disease can manifest itself in various ways. By gathering information from numerous sources, organising it into categories that make sense, and then performing analysis to get out the desired information based on statistics, we may conclude that this technique is quite adaptable.

Predicting Air Pollution Using Machine Learning Algorithms

Ms. GUNUPURU SOWJANYA [1], Ms. MAJJI THANU SRI [2], Ms. BOLEM CHAITANYA JYOTHIKA [3], Mr. ASISH NIKHIL T [4], Mr. JANI SHAIK [5]

[1] BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA- 531173
[2] BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA- 531173
[3] BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA- 531173
[4] BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA- 531173
[5] Assistant Professor COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA- 531173

ABSTRACT

Without oxygen, it is impossible to comprehend how humanity would survive. Modern human culture has had constant advancements that have had a negative impact on the quality of the air. Everyday transportation, industrial, and domestic operations churn up dangerous contaminants in our surroundings. Since air quality is increasingly affecting people's health, the government must take essential steps to monitor and forecast it. Pollution of the air or noise can cause annoyance and a decline in quality of life, which can be harmful to one's health. The air's quality is measured by the air quality index. Both human activities and natural occurrences may contribute to air pollution. As a result of human activity, pollutants such as sulphur dioxide (So2), nitrogen dioxide (NO2), carbon monoxide, chlorofluorocarbons (CFCs), coal, lead, mercury, and wood are emitted into the atmosphere. Because of human activity, e. Serious illnesses including lung cancer, brain sickness, and even death can be brought on by air pollution. The air quality index is determined with the aid of machine learning techniques. Datasets are accessible through Kaggle or the Central Pollution Control Board (CPCB), and they are split into two categories: training and testing. The train and test subsets of the dataset are divided by a 75-25% ratio, respectively. A comparison of ML-based AQI prediction with and without the SMOTE resampling technique is provided. The outcomes of the ML models are shown in terms of common metrics like accuracy, precision, recall, and F1-Score for both the train-test subsets. The XGBoost model attained the highest accuracy and the best performance for both the train-test sets.

Keywords: — SMOTE, XGBOOST, AQI.

1 INTRODUCTION

It is imperative to precisely estimate the quality of the air since it is critical to human survival and should be reduced quickly in both urban and rural locations where air pollution is a health risk. Modern human culture has had constant advancements that have had a negative impact on the quality of the air. Everyday transportation, industrial, and domestic operations churn up dangerous contaminants in our surroundings. Since air quality is increasingly affecting people's health, the government must take essential steps to monitor and forecast it. Pollution of the air or noise can cause annoyance and a decline in quality of life, which can be harmful to one's health. The air's quality is measured by the air quality index. Both human activities and natural occurrences may contribute to air pollution. As a result of human activity, pollutants such as SO2, carbon dioxide, nitrogen dioxide, carbon monoxide, chlorofluorocarbons (CFCs), coal, lead, mercury, and wood are emitted into the atmosphere. Serious illnesses including lung cancer, brain sickness, and even death can be brought on by air pollution. Both human activities and natural occurrences may contribute to air pollution. As a result of human activity, pollutants such as SO2, carbon dioxide, nitrogen dioxide, carbon monoxide, chlorofluorocarbons (CFCs), coal, lead, mercury, and wood are emitted into the atmosphere. Serious illnesses including lung cancer, brain sickness, and even death can be brought on by air pollution.

Industrial Engineering Journal
ISSN: 0970-2555
Volume: 52, Issue 4, April 2023

ONLINE AUCTION SYSTEM

Ms. R.V.S. SRAVANTHI [1], Ms. Y.HEMA LATHA [2], Ms. M.HEMA CHATURYA [3],Mr. ABHISHEK SAHU [4], Mrs. M.S.S. VAHINI [5]

1. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
2. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
3. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
4. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
5. Assistant Professor COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173

ABSTRACT

Distance and time are important factors while buying various things in the modern world. Many prefer using the e-commerce approach, particularly following Corona and for other reasons. There are two sorts of e-commerce. One involves set price selling and buying, while the other involves changeable price. In the fixed price model, the provider or seller sets the product price, and customers are only required to purchase at that price. The "auction method" is an additional strategy for purchasing and selling. When the seller sets a base price and the buyers provide price bids.

We are working to create a software programme for the "auction technique" because so many people today want to purchase goods at reasonable prices. This makes it easier for users to buy and sell cases. regarding price, distance, and time. A web-based "OAS" facilitates the purchase and sale of goods. Both buyers and sellers benefit from "OAS." Seller is not required to keep stores in all cities or locations. The buyers have the option to join in the "auction" at their own willing price and convenient time.

1 INTRODUCTION

The global scope of online auction sites enables buyers and sellers to get around regional restrictions and acquire goods anytime, anyplace online. Compared to the typical old offline markets, the online auction market offers consumers significant advantages in terms of reduced pricing, a wider selection of products, and increased efficiency. The usage of an online auction system utilises a tool to aid in decision-making, which increases the buyer's confidence in the seller and product choices they make. The three components of the decision-making aid are the seller's rating scores, the seller's shilling activities, and the product information signals.

The goal of the product information signals is to completely describe the product using both text and images. product certifications from independent third parties, an explanation of the features, instructions for use, and book value. This aims to guarantee the product certainty of the buyer. By utilising the feedback scores, the decision-making support tool also offers seller ratings. These evaluations of the online auction product sellers are provided by prior winning bidders. These bidders provide in-depth seller ratings of every aspect of the seller, scoring factors such as how accurate the item description was, how satisfied they were with the seller's communication, and how promptly the seller delivered the goods to them.

The technique of creating seller's shill ratings is the second crucial component of the decision-making tool. Shilling is the introduction of phoney currency. bids into an auction on the seller's behalf in order to artificially raise an item's price. The algorithm keeps track of the features of shill behaviour, such as bidders that repeatedly place unsuccessful bids on the same seller, to determine the shill grade. Shills typically have a greater ratio of rejected bids to total bids. The auction house keeps track of how many bids each bidder has made for each seller they have dealt with. A shill score is calculated using the data above. Consumer confidence in the choice of the sellers and the items they produce is ensured by a thorough study of the product and seller and the usage of the decision-making help tool. The issue that Due to the lack of a physical inspection, buyer concern about vendors and their products is a common issue in online auctions. Despite the many benefits of online

Predicting of Modernized Loan Approval System Based on Different Machine Learning Approaches

Ms.DANGETI ARUNA KUMARI [1], Mr. HARSHA VARDHAN PANIGRAHI [2], Mr.KOLLI HARI KRISHNA [3], Mr. KARRI KUMAR NAIDU [4], Ms.PEDDINTI MOUNIKA [5]

1. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
2. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
3. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
4. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
5.Assistant Professor COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173

ABSTRACT

Financial institutions and banks must forecast the likelihood of loan defaults because a significant portion of their income comes from the interest and monthly installments (EMIs) generated by the repayment of the loans they have provided to their clients. The system's historical data about the candidate determines whether or not the application is granted. Numerous people ask for loans every day in the banking industry, but the bank only has a limited amount of money. The number of loans, or whether the client or customer is repaying the loan, determines the bank's profit or loss. Loan recovery is of utmost importance to the banking industry. In order to decide whether to authorize a customer's loan or not, financial institutions and banks would greatly benefit from having a model that could anticipate loan defaulters. Such a model will assess consumer data in accordance with specific criteria and produce an accurate result as a consequence. The process of improvement is crucial in the banking industry.The data set was obtained via Kaggle. utilizing ensemble learning and methods like naive bayes, decision trees, and MLP, a machine learning model was constructed utilizing the history data of the applicants.Using our approach, we predict with a 90% accuracy rate.

1 INTRODUCTION

The main need in the current world is loans. Banks only receive a significant portion of the overall earnings from this. It is advantageous for people to purchase any type of luxury, such as homes, vehicles, etc., as well as for students to manage their educational and living expenditures.However, the decision as to whether the applicant's profile is pertinent for loan approval or not. Banks have a lot of responsibilities.To make their jobs easier and determine whether the candidate's profile is relevant or not, we will use Machine Learning with Python in this case. This will be done by using important features like applicant income, credit history, applicant income, and marital status.

People desire to apply for loans online as the amount of data grows daily as a result of the banking industry's digitization. As a typical tool for information analysis, artificial intelligence (AI) is receiving more and more attention. People from diverse industries are using AI calculations to solve problems based on their knowledge of the relevant industries. When approving loans, banks are having a lot of trouble. The bank workers oversee a large number of applications every day, which is difficult and increases the likelihood of mistakes. The majority of banks make money through loans, however it can be dangerous to select eligible clients from the pool of applicants. A bank could suffer a severe loss due to one error. Almost all banks' main line of operation is loan distribution. Out of all candidates, this project seeks to provide a loan [1, 8] to a deserving applicant. A fair and effective system that saves the bank time involves prioritizing each applicant for review. The timely completion of all other client formalities by the bank authorities benefits the customers. The nicest thing is that it works well for both applicants and banks. With the help

FLIGHT FARE PREDICTION USING MACHINE LEARNING

Ms.Majji Lavanya [1], Ms. Dumpa Satyaveni [2], Mr.S.D.Sai [3],Mr. Gadi. Jaswanth kushil [4], Ms.Menda Ramya sri[5],Dr.Srinivas Rayudu [6].

1. **BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173**
2. **BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173**
3. **BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173**
4. **BTECH ,NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISBTECHAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173**
5. **BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISBTECHAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173**

6.Head of the department of COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJUINSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173

ABSTRACT

The cost of airline tickets fluctuates depending on a number of variables, including the scheduling, destination, and length of the flight. By using machine learning algorithms to the gathered historical flight data, the suggested system will generate a prediction model. It might be difficult for consumers to decide when is the best time to buy plane tickets, mostly because they lack the knowledge necessary to make predictions regarding price changes. In this project, our main goals were to identify underlying trends in travel costs in India using historical data and to recommend the most advantageous time to purchase a ticket. A comparison study of several methods in determining the ideal time to purchase a flight ticket and the amount that may be saved if done so is conducted as part of the research in order to validate or refute common misconceptions about the airline business. Surprisingly, the route, month, day, time, whether the day of departure is a holiday, airline carrier, and day of departure all have a significant impact on price trends. While prices on some highly competitive routes, such as those between tier 1 and tier 1 cities like Mumbai and Delhi, increased in a non-decreasing trend as the number of days until departure decreased, other routes, such as those between tier 1 and tier 2 cities like Delhi and Guwahati, had a set period of time during which prices are at their lowest. The data also validated the fact that there are certain times of the day where the prices are expected to be maximum; furthermore, the data also uncovered two basic categories of airline carriers operating in India - the economical group and the luxurious group; and in most cases, the minimum priced flight was a member of the economical group.

1 INTRODUCTION

It might be challenging to choose the best time to buy an airline ticket from the perspective of the traveller because they have very little knowledge about future business price rates. Different models forecast future air travel costs and classify the ideal window for booking tickets. Airlines use a variety of pricing systems for their tickets, making price decisions later since order displays a larger value for approximation models. Each of these factors is what makes the system challenging. Airlines must control demand since there are only so many seats that can be filled in planes. Assume that the airline may raise prices to slow down the rate at which seats fill when demand exceeds capacity. Additionally, requiring business airline businesses to buy tickets to fill empty seats at any cost would be the best way to turn a profit while also incurring a loss due to the seating arrangements in empty flights. In order to compensate for price increases and decreases, passengers must be amenable to airline firms. I frequently buy flights, thus I'd like to be able to anticipate when the optimum time is to book in order to receive the cheapest price. Additionally, requiring business airline businesses to buy tickets to fill empty seats at any cost would be the best way to turn a profit while also incurring a loss due to the seating arrangements in empty flights. In order to compensate for price increases and decreases, passengers must be amenable to airline firms. I frequently buy flights, thus I'd like to be able to anticipate when the optimum time is to book in order to receive the cheapest price. The input includes the day and week of the request, the day and week of the flight, the number of stops, the duration of the flight, the number of hours between the request and the flight, and the current cost of the ticket. The result is the binary class that was previously mentioned, with 1 denoting "should wait" and 0 denoting "should buy." Customers or passengers should make their own plans in order to take advantage of the greatest deals offered by various airlines and fly for a lower cost. As time goes on, the cost of airline tickets fluctuates, separating the factors that cause the difference. reporting the models that are connected and utilised to determine the cost of airline tickets. Using that data, a model was created to assist customers in scheduling and purchasing tickets as well as forecast future increases in ticket costs. The attributes utilised for predicting flight prices include duration, arrival time, price, source, destination, and

Industrial Engineering Journal
ISSN: 0970-2555
Volume: 52, Issue 4, April 2023

COLLEGE EVENTS NOTIFICATION SYSTEM

Ms. SOWMYA PANDA[1], Mr. BARLA MANOJ KUMAR[2], Ms. RAJANA JAHNAVI [3],Mr. PALAVALASA PAVAN KALYAN[4], Mr. REDDY NAGA VENKATA SIVA[5], Mr. Dr V. SREERAMA MURTHY

1. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
2. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
3. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
4. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA – 531173
5. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
6. Professor COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173

ABSTRACT

The project's main goal is to replace the current paper-based event notification system and other processes. Institutions currently employ wooden notice boards that hang on walls to post notifications, but this procedure presents difficulties because it necessitates maintaining the display and personally visiting the notice board. As a result, the notice board system needs to be updated to include digital notice boards. The widespread use of mobile devices, especially among young people, highlights their significance for both recreational and educational purposes in higher education. The College Events Notification System is suggested in this context to improve communication between colleges and students. This technology enables professors to distribute academic notifications more rapidly and effectively by utilising SMS and email systems. Furthermore, it gives students access to information about university events. The main goal of this project is to develop a mobile app that lists all activities occurring inside and outside of the university and allows users to sign up for relevant conferences, workshops, placements, technical and non-technical events. The project will adopt a waterfall methodology, starting with the creation of a prototype that gives users a glimpse of the full system.

1 INTRODUCTION

In schools, colleges, universities, and the workplace, "mobile learning" is an emerging and quickly growing area of educational research and practise. Through a mobile device, college and students can remain in touch anytime, anywhere with the College Events Notification System. New forms of communication are now possible thanks to the widespread use of mobile and wireless technology and the availability of cheap cell phone and internet services. In this project, we hope to make better use of these features to improve communication between college personnel and students about future activities on campus.

This method's goal is not to compete with or supplant more conventional means of communication, such in-person conversations in classrooms or online learning environments. Instead, it is an additional technique that can improve and supplement the notification procedure. This system's implementation might be advantageous for colleges. It enhances rather than replaces the current techniques of academic event announcement. Students' mobile devices are used by this online event notification system to receive SMS and email notifications. By implementing this method, the university might improve its standing and do away with laborious paperwork.

The College Event Notification System, a system that would enable improved academic information dissemination in colleges, will be covered by the project. Using this platform, the college will be able to distribute notices via a college event notification system.

SKIN CANCER DETECTION USING CONVOLUTIONAL NEURAL NETWORKS

Mr. KOLLI GOVINDU [1], Ms.BODANKI SRI RAMA RACHANA [2], Mr.MANAM SIVA SAI[3], , Ms.MADAKA PRIYA SANDHYA [4],Mr. Dr.RAYUDU SRINIVAS [5]

1. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
2. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
3. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA – 531173
4. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA – 531173
5. Professor &HOD COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173

ABSTRACT

Skin cancers are cancers that arise from the skin. They are due to the development of abnormal cells that have the ability to invade or spread to other parts of the body. Skin cancer is one of the most prominent cancers in average years of life lost per death.Out of the three basic types of skin cancer, namely, Basal Cell Carcinoma (BCC), Squamous Cell Carcinoma(SCC) and Melanoma, Melanoma is the most dangerous in which survival rate is very low. Even though the mortality is significantly high, but when detected early, survival rate exceeds95%. This motivates us to come up with a solution to save millions of lives by early detection of skin cancer. Convolutional Neural Network (CNN) or ConvNet, are a class of deep neural networks, basically generalized version of multi-layer perceptrons. CNNs have given highestaccuracy in visual imaging tasks . This project aims to develop a skin cancer detection CNNmodel which can classify the skin cancer types and help in detection.The model will be tested and trained on the dataset collected from the International Skin Imaging Collaboration(ISIC) challenge archives.

In proposed system we are using convolutional neural networks it gives 95% accuracy.

1 INTRODUCTION

Cancers that start in the skin are known as skin cancers. They result from the growth of aberrant cells that can infiltrate or disseminate to different areas of the body. In terms of the average number of years of life lost per death, skin cancer is one of the most common cancers. According to the American Cancer Society, Inc.'s Surveillance Research, there are predicted to be 100,350 new instances of melanoma skin cancer in 2020, of which 60,350 cases will be in men and 43,070 cases will be in women. Skin cancer is one of the most serious health problems in the world due to its high prevalence relative to other cancer forms.

Melanoma has historically been a rare kind of cancer, but in the last 50 years, cases have dramatically increased over the world. According to estimates, there will be an almost 2% rise in the predicted 6,850 deaths from skin cancer among the 8,030 male and 3,450 female patients. Patients with early stage melanoma diagnosis have a five-year survival rate of about 95%. Hence, the main element in lowering the death rate is early skin cancer identification. The ABCD acronym, which stands for Asymmetry, Boundary irregularity, Color variegation, and Diameter (ABCD), was developed by a research team at New York University as a straightforward yet effective tool to inform the general public about the early detection of melanoma. In 1990,

Industrial Engineering Journal
ISSN: 0970-2555
Volume: 52, Issue 4, April 2023

SIGN LANGUAGE RECOGNITION USING CONVOLUTIONAL NEURAL NETWORKS

Ms. KOLUKULA KALYANI[1], Mr. ATCHUTANNA SAI NIRMAL[2], Ms. SIRAPARAPU ROHINI [3], Mr. MARASU BALA VIHAR[4], Mr. Dr T.V.S. SRIRAM[5]

1. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
2. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
3. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
4. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA – 531173
5.Professor COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJUINSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173

ABSTRACT

Sign Language Recognition (SLR) seeks to convert sign language into text or speech in order to enhance communication between deaf-mute people and hearing people.. While having a significant social influence, this task is nonetheless highly difficult due to its intricacy and wide range of hand gestures. Current SLR techniques create classification models based on hand-crafted characteristics to describe sign language motion. Nonetheless, it is challenging to build trustworthy features that can adjust to the wide range of hand motions. To solve this issue, we suggest a novel convolutional neural network (CNN) that automatically and automatically extracts discriminative spatial-temporal features from the raw video stream, reducing the need to build features. To improve performance, multiple video streams with colour and depth information are used. Input to the CNN that integrates colour, depth, and trajectory data includes clue and body joint locations. We test the proposed model on a real dataset obtained using Microsoft Kinect, and we show that it outperforms conventional methods based on manually created features.
Keywords: CNN,SLR

1 INTRODUCTION

One of the most popular ways for people who are hard of hearing to communicate is through sign language, which is represented through different hand and body gestures as well as facial expressions. Sign language recognition is still a very difficult task since it is challenging to cooperatively exploit the information from hand forms and body movement trajectory. In order to assist hearing-impaired people who use sign language to communicate with hearing people, this research suggests an efficient recognition model for translating sign language into text or speech. Strictly speaking, creating descriptors to express hand forms and motion trajectory represents the biggest obstacle to sign language detection. Tracking hand areas in video streams, separating hand-shape images from complicated backgrounds in each frame, and motion detection issues are specifically involved in hand-shape description. trajectory of motion is also connected to matching curves and tracking the critical locations. Despite the fact that there has been a lot of research on these two topics up to this point, it is still challenging to achieve satisfactory results for SLR because of the variance and occlusion of hands and body joints. Moreover, integrating the hand-shape features and trajectory features is a difficult task. To overcome these challenges, we create CNNs that innately incorporate hand forms, action trajectory, and facial expression. We take colour images, depth images, and body skeleton images simultaneously from Microsoft Kinect in place of using standard colour images as input to networks like [1, 2]. A motion sensor with depth and colour information is called Kinect. stream. The body joint locations can be acquired in real-time using the open-source Windows SDK. As a result, we decided to record the dataset of sign words using the Kinect. To distinguish between various sign behaviours, the depth and colour variations at the pixel level provide useful information. Moreover, changes in body joints throughout time can show the progression of sign activities. Using a variety of visual sources as input encourages CNNs to pay attention to changes in depth and trajectory in addition to colour. It is important to note that because CNNs have the ability to learn features automatically from raw data without any human intervention, we can avoid the challenges of tracking hands, segmenting hands from background, and defining descriptors for hands. prior information [3].
Recently, CNNs have been used to classify video streams. CNNs' possible worry is time consumption. The expense of training a CNN with a million-scale in a million videos is several weeks or months. Fortunately, using CUDA for parallel processing still makes it possible to operate efficiently in real-time. We suggest using CNNs to extract spatial and temporal information from a video stream for the purpose of recognising sign language (SLR). Current methods for SLR construct classification models based on hand-crafted characteristics that describe sign language motion. CNNs, on the other hand, can automatically detect motion from unprocessed video data, removing the need to develop features. We create a CNNs using a variety of data formats as input. This design incorporates

CREDIT CARD FRAUD DETECTION USING MACHINE LEARNING ALGORITHMS

Mr. KOLLI NIKHIL [1], Mr. BISWAMBHARA VINAY MAHARSHI [2], Mr. KAMIREDDY TANOOJ [3], Mr. Dr.T.V.S.SriRam [4]

1. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
2. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
3. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
4 Professor COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173

ABSTRACT

Financial institutions are very concerned about credit card theft since it can lead to large financial losses. Real-time fraud detection is essential to preventing such losses. CatBoost is one of the most well-known machine learning algorithms because of its propensity to handle categorical data and unbalanced datasets. Machine learning methods have been used to develop models for credit card fraud detection.

In this research, we suggest a CatBoost-based system for detecting credit card fraud. The approach seeks to correctly identify fraudulent transactions while minimising false positives to avoid upsetting loyal consumers. A sizable dataset of credit card transactions, including details such transaction amount, time, and location, was used to train the model.

In order to manage categorical variables and lessen the effects of imbalanced data, which is a prevalent problem in credit card fraud detection, the CatBoost method is utilised. The model's efficiency in spotting fraudulent transactions is assessed using a variety of performance indicators, including precision, recall, and F1-score.

The CatBoost algorithm, which can be used in real-world scenarios to reduce financial losses and defend customers' interests, is anticipated to be used by the suggested system to detect credit card fraud.

1 INTRODUCTION

When an unauthorised person makes fraudulent purchases or transactions using another person's credit card or credit card information, this is known as credit card fraud. Both the victim and the credit card company may suffer considerable financial losses as a result of this fraud. To stop and lessen such illegal activity, credit card fraud detection systems have grown to be an essential part of the credit card business.

There are numerous different ways that credit card fraud can happen, including skimming, phishing, counterfeiting, identity theft, and others. One of the most popular types of credit card theft is skimming, which involves using a tiny gadget called a skimmer to obtain the credit card details of unwary victims. Phishing is another prevalent type of credit card theft that includes deceiving victims into divulging their credit card information by using phoney emails or websites. In order to make purchases or open new accounts in the victim's name, the thief takes personal information, including credit card numbers. This is known as identity theft.

Credit card firms and financial institutions have created advanced fraud detection systems to fight credit card fraud. To detect fraudulent transactions and activity, these systems employ a variety of algorithms and methodologies. Machine learning, which uses algorithms that can learn from data and increase their accuracy over time, is one of the most widely utilised methods for detecting credit card fraud.

Because they can examine huge volumes of data and find patterns that can be indicative of illegal behavior, machine learning algorithms are particularly good at spotting credit card fraud. They can also spot irregularities in transactions, like transactions performed at odd hours of the day or in strange places or amounts.

There are numerous different ways that credit card fraud can happen, including skimming, phishing, counterfeiting, identity theft, and others. One of the most popular types of credit card theft is skimming, which involves using a tiny gadget called a skimmer to obtain the credit card details of unwary victims. Phishing is another prevalent type of credit card theft that includes deceiving victims into divulging their credit card information by using phoney emails or websites. In order to make purchases or open new accounts in the victim's name, the thief takes personal information, including credit card numbers. This is known as identity theft.

ISSN No : 2454-4221 (Print)
ISSN No : 2454-423X (Online)
International Journal of Research in Advanced Computer Science Engineering
A Peer Reviewed Open Access International Journal
www.ijracse.com

FACE EMOTION DETECTION USING DEEP LEARNING

K. Latha, S. Mounika, Ch. Rajesh, T. Raghunath, K. Dinesh and T. V. S. Sriram
Nadimpalli Satyanarayana Raju Institute of Technology, Visakhapatnam– 531173, Andhra Pradesh, India
lathakappa2001@gmail.com, saripallimounika3@gmail.com, rajeshchukka12345@gmail.com, ravanraghunath@gmail.com, dineshshankar2403@gmail.com and tvssriram.cse@nsrit.edu.in

Abstract
In our lives emotions are the fundamentals for human beings and play an important role in human cognition. Expressing and recognizing emotions of human are very much important in communication system. Emotions can be expressed through gestures, speech, facial expressions, body language etc. Facial movement is the major role in expressing emotions. Expressing emotions varies from one person to another. Human emotions are classified as: surprise, fear, anger, happy, sad, disgust andneutral.
Emotions effect human both positively and negatively and at time applies on healthof an individual. People while in emotions need to come back to normalcy as quick and as easily as possible. In case of negative emotions (that effect negatively on body) need immediate treatment. Traditionally there are several ways to treat they include listening to music, reading a book, listening to humor, watching a movie , talking to a friend etc., Though these are good ways to overcome emotions, time and place (location) in today's world may have limitations. In today's digital world and days of smart phones we can overcome place and time factors. This necessitated us to think and develop a "Recommendation system" on the state of art technologies and concepts like "DEEP LEARNING". We come up with a solution in the form of "FACE EMOTION DETECTION USING DEEP LEARNING (FED)".
FED aims to personalize emotions driven recommendation of entertainment. To start with a case we have chosen Music as it has a great influence on humans and is widely used for relaxing, mood regulation, destruction from stress, to maintain mental and physical work.

FED is designed to the personalized music recommendation system driven by listener feelings, emotions and activity contexts. FED automates the capture and treatment of emotions by using classification algorithm and "DEEP LEARNING" techniques that categorizing the facial expressions. Though FED is presently focusing on Music, this can be further extended to several other entertainment types and solutions.

Keywords: Face emotion detection, Deep learning, Automates the capture treatment and Music.

Cite this article as: K.Latha, S.Mounika, Ch.Rajesh, T.Raghunath, K.Dinesh & T.V.S.Sriram, "FACE EMOTION DETECTION USING DEEP LEARNING", International Journal of Research in Advanced Computer Science Engineering, (IJRACSE), Volume 8 Issue 1, June 2022, Page 1-13.

Industrial Engineering Journal
ISSN: 0970-2555
Volume: 52, Issue 4, April 2023

WEB APPLICATION TO PROVIDE VIRTUAL PLATFORM TO PEOPLE (SOCIAL LIFE)

Ms K. Aarthi[1], Mr. K. Pradeep[2], Ms. G. Yashoda[3],Mr. Ashwin Kumar Rout[4], Mr. Dr. Rayudu Srinivas[5]

1. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
2. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
3. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
4. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
5. Professor COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173

ABSTRACT

This project report is meant to act as a manual for the social networking website that was created. I have made an effort to adhere to the guidelines and restrictions provided by the software. To ensure the success of this website, engineers have been consulted at every stage. Users must create a profile of themselves in order to publish stuff that showcases their talents and receive feedback. They will be ranked based on how many people liked the content. (Polling). Users will be ranked according on how many people have liked all of the posts they have published.These rankings will be completed using a MySQL query and a data set that has been stored in a MySQL database. The admin team will physically verify any reported videos after using this website's reporting function to identify any abusive content. A website is successful when it satisfies the needs of its users, It can and does improve things when it works flawlessly over an extended length of time, when it's simple to tweak, and when it's even simpler to use. However, horrible things may and do happen when software fails—when its users are unsatisfied, when it is error-prone, when it is challenging to change, and much more challenging to operate.

We all want to build websites that improve things while avoiding the negative effects of our mistakes. We need discipline when designing and developing software if we want to succeed. Even as they create systems to support the most cutting-edge technology of the day, many people and businesses continue to create software carelessly. As a result, we generate software that is of lower quality, and unfortunate events take place.

This project report is meant to act as a manual for the social networking website that was created. In order to create a good website, I have attempted to adhere as closely as possible to the guidelines and rules provided by the software experts.

Documenting the important ideas and methods employed for the project's successful development is the main focus of this report.

I sincerely hope that the readers of this report will gain a true understanding of the nature of the project. I also hope that this website fulfils all of the needs and demands of the users for whom it is intended.

1 INTRODUCTION

In order to create a network among people living throughout the world, users of the online social network service INSTRAGRAM can use it. Everyone has easy access to and sharing of all the information.Users of this system can register many types of profiles, such as social, personal, general, and professional. Send a message, upload pictures so the user can keep their own album, and many other things.

Social networking is the primary form of communication in the twenty-first century. Social networking is the assembling of people into certain groups, such as neighbourhood subdivisions or small rural communities. Even if it is feasible to socialise in person, particularly at work, at colleges, and in high schools, it is more common online. This is due to the fact that, in contrast to the majority of high schools, colleges, and workplaces, the internet is home to millions of people who are seeking romantic relationships.

Industrial Engineering Journal
ISSN: 0970-2555
Volume: 52, Issue 4, April 2023

Timetable Management with Faculty-Course assignment constraints.

Ms Dunga.Pravallika[1], Ms. Asam.Sireesha[2], Ms. Dandu.Pramodini[3],Mr. Ketan Jain[4], Mr. N.Viswanadha Reddy [5]

1. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
2. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
3. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
4. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
5. Sr. Assistant Professor COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJUINSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173

ABSTRACT

The primary goal of the timetable management system is to handle the scheduling issue, which involves the difficult process of creating an automated timetable for classes with constrained resources. We can locate the most effective and quick remedies for that issue using this, as we are aware that manually made timetables may contain certain flaws and take a long time to create workable answers. The department faculty members will also be granted some authorization, and the project is entirely under administrative control. The project's goal is to create an application software that can provide the best timetables possible while limiting faculty restrictions to their preferred teaching load. This project seeks to balance university requirements while maximizing satisfaction with event assignments and faculty member preferences. Minimum manual labour and maximum optimization, abstraction, and security will be part of this. There is a web application that will assist faculty members and the department's administration in carrying out all of the department's activities. The system is an application that can be viewed by anyone in the company with the correct login, and it may be used as an application by the department's faculty to manage the schedules and activities that are held there. The main benefit of this initiative is how simple it is to seek time off for faculty members, and faculty members may also quickly make announcements through the application process. The programme offers the capability of preserving the departmental faculty members' contact information. The administrator signing in may also look for any data pertaining to the schedule or the faculty's availability at the movement. Additionally, this will facilitate quick access procedures for administratively related tasks.

1 INTRODUCTION

Since time table scheduling is an NP-hard problem, genetic algorithms can be used to verify solutions in polynomial time. Every academic institution encounters this common scheduling issue once or twice a year, making it seem like a laborious task. Time table scheduling used to be done manually in the old days by a single person or a group of people, which required a lot of time and work. One of the most difficult and error-prone applications is timetable planning. Timetabling is the process of developing a schedule while meeting certain requirements. restrictions can be divided into two categories: soft restrictions and strong limitations. If we breach soft scheduling restrictions, the result is still valid, but if we violate hard scheduling constraints, the timetable is no longer valid. A scheduling problem has a very large search space; many solutions exist there, and only a small number of them are not practical. Here, "feasible solutions" refers to those that attempt to satisfy soft constraints while also not violating hard constraints. We must select the best suitable option from all of the viable options. Here, the term "most appropriate ones" refers to those that do not more flagrantly breach soft limitations. In this project, it has been made sure that hard constraints are properly adhered to and that soft constraints are adhered to as much as possible. The challenge of creating a workable and ideal schedule for courses and classes in educational institutions is a difficult one. The schedule must take into account a number of requirements, including those related to room availability, teacher availability, student preferences, and course prerequisites, while also avoiding conflicts or overlaps. When there are numerous courses and students, the issue becomes even more complicated. Numerous methods, including genetic algorithms, have been suggested as solutions to this issue. The process of natural selection and genetics served as the inspiration for genetic algorithms, which are optimisation algorithms.We'll also look into the application of several crossover

Industrial Engineering Journal
ISSN: 0970-2555
Volume: 52, Issue 4, April 2023

FAKE NEWS DETECTION

Mr.S.Sudheer Kumar[1], Ms.V.Gayathri[2] , Mr.P.Sai Kumar[3],Mr.G.Nithin[4], Dr.V.Sreerama Murthy[5]

1. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173

2. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173

3. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173

4. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173

5. PROFESSOR COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173

ABSTRACT

Every day, the internet publishes more than millions of news articles. This number will rise significantly if we include the tweets from Twitter. The internet is now the primary medium for disseminating false information. It is necessary to have a system in place to recognise fake news that is posted online so that readers can be cautioned. By evaluating the news' text data using machine learning techniques, several researchers have developed ways to spot false news. Here, we'll also talk about machine learning methods for accurately identifying bogus news. To determine if a piece of news is true or false, we will train machine learning classifiers. We're going to train three well-known To forecast bogus news, classification techniques Logistics Regression, Support Vector Classifier, and Naive-Bayes were used. We shall determine which of these three algorithms performs the task the best after analysing the performance of all three. Before we can organise fake news detectors, we must first introduce the datasets that contain both actual and fake news. To categorise the datasets, we employ NLP, machine learning, and deep learning algorithms. By incorporating fake news categorization and current machine learning algorithms, we produce a thorough audit of detecting fake news. We attempt to determine whether the new News being entered by the end user in our site is a false one or a legitimate one using these training data sets as a reference.

1 INTRODUCTION

Every day, the internet publishes more than millions of news articles. This number will rise significantly if we incorporate the tweets from Twitter. The internet is now the primary medium for disseminating false information. It is necessary to have a system in place to recognise fake news that is posted online so that readers can be cautioned. By evaluating the news' text data using machine learning techniques, several researchers have developed ways to spot false news. Here, we'll also talk about machine learning methods for accurately identifying bogus news.

To determine if a piece of news is true or false, we will train machine learning classifiers. We're going to train three well-known To forecast bogus news, classification techniques Logistics Regression, Support Vector Classifier, and Naive-Bayes were used. We shall determine which of these three algorithms performs the task the best after analysing the performance of all three.

Before we can organise fake news detectors, we must first introduce the datasets that contain both actual and fake news. To categorise the datasets, we employ NLP, machine learning, and deep learning algorithms. By incorporating fake news categorization and current machine learning algorithms, we produce a thorough audit of detecting fake news.

We attempt to determine whether the new news being entered by the end user on our site is a false one or a legitimate one using these training data sets as a reference.

Machine learning techniques for fraud detection have been the subject of extensive research, with the majority of it concentrating on categorising online reviews and publicly accessible social media posts. The issue of identifying "fake news" has received a lot of attention in the literature, especially since late 2016 during the American Presidential election. A number of strategies are outlined by Conroy, Rubin, and Chen [9] with the purpose of accurately classifying the deceptive articles. They point out that shallow parts-of-speech (POS) tagging and simple content-related n-grams have frequently failed to account for crucial context information, making them insufficient for the classification task. These techniques have only been

IJNRD.ORG ISSN : 2456-4184
INTERNATIONAL JOURNAL OF NOVEL RESEARCH AND DEVELOPMENT (IJNRD) | IJNRD.ORG
An International Open Access, Peer-reviewed, Refereed Journal

A CASE STUDY ON FINANCIAL FRAUD DETECTION WITH BIG DATA ANALYTICS

A.Suraj Kumar[1] ,D Govardhan[2] ,W Sai Kaushik[3] ,Ch Harshith[4] ,U Madhu[5] ,

[1] Assistant Professor, Department of CSE (Data Science), Nadimpally Satyanaraya RajuInstitute of Technology, Sontyam, Visakhapatnam

[2*] Student of Department of CSE (Data Science), Nadimpally Satyanarayana Raju Institute OfTechnology, Sontyam, Visakhapatnam [3*] Student of Department of CSE (Data Science) Nadimpally Satyanarayana Raju Institute OfTechnology, Sontyam, Visakhapatnam [4*]Student of Department of CSE (Data Science) Nadimpally Satyanarayana Raju Institute OfTechnology, Sontyam Visakhapatnam [5*] Student of Department of CSE (Data Science) Nadimpally Satyanarayana Raju Institute OfTechnology, Sontyam, Visakhapatnam

Abstract : The financial sector is currentlyundergoing digital transformation across products, services, and business models. This digitization aims to automate most of the manualfinancial transactions and otherrelated services. Therefore, detectingfraud in financial transactions has become an important priority for all financial institutions. With modern technology and global communication, fraud has greatly increased and caused great damage. The focus of this paper is to test different approaches to detect fraud on a real data set of financial paymenttransactions. The dataset is obtained from Kaggle and consists of 6 millionevent records and 10 features with anevent label of "fraudulent" or "non-fraudulent". These functions are investigated through exploratory data analysis and only 6 are kept for testing, such as payment type, account balance, transaction amount,etc. Two supervised machine learning algorithms, a random forest, and a support vector classifier are used to detect fraudsters transactions.The dataset is large and requires highcomputing power to process and trainmachine learning algorithms.Additionally, another challenge is thevery uneven distribution between thefraudulent (0.1%) and non-fraudulent(99.9%) classes. This study aims to address both of these issues. To address the class imbalance,oversampling of minority class data using the Synthetic Minority Oversampling Technique (SMOTE) and undersampling of the majority class using random sub-sampling are investigated. Computationalefficiency is achieved by implementing Apache Spark, which provides distributed processing forlarge volumes of data. The best performance is achieved using the random forest algorithm on the oversampled dataset with a precisionof 99.95, an F1 score of 0.999, arecall value of 0.999, a geometricmean of 99.9%, and a model trainingtime of 13.9 minutes. This article provides valuable insights into usinglarge-scale, highly imbalanced big data sets to predict and generate financial fraud alerts.

Keywords*: Fraud Detection, Big dataanalytics, Apache Spark*

INTRODUCTION

Big Data is a large amount ofinformation collected from varioussocial media, questionnaires, and voluntarily given product purchases. This information is stored in computer databases and analyzed using software designed to process large and complex data sets and drawconclusions faster and faster.

Big data has significantly impacted many sectors of the global economy,such as healthcare, manufacturing, and retail. It is transforming the world and no industry has been left untouched by its immense benefits, and banking is no exception. Like thecloud, the Internet of Things,machine learning, and open banking, big data is one of the financial industry's favorites. When acustomer enters a bank for the first time, he brings with him manypossibilities, such as the possibility of becoming a regular customer, the possibility of making appropriateinvestments, a short-termrelationship, or even the possibility of fraud. Banks need to focus on their customers from a 360-degree angle tovisualize their behavior patterns, repayment habits, and financial needs.

Banks deal with millions of potentialpeople every day, and for all that, they need data, lots of it. When potential customers come in, banks have to process a lot of potential data.There is no shortage of information inthe banking sector. Big Data has emerged as the savior of the bankingindustry.

With the help of big data, companiesproviding financial services havechanged their operating methods. Bigdata reduces the risk of fraud detection, enforcement, and portfolio management. This risk reduction, combined with the optimization of a winning strategy, can give

Industrial Engineering Journal
ISSN: 0970-2555
Volume: 52, Issue 4, April 2023

VISITORS HIRE (Web Based Application for Rental Vehicles)

Ms N. Sai Kumari[1], Mr. M. SeethamNaidu[2], Ms. V. Kusuma Latha[3],Mr. P. Nikhil[4], Mrs. P. KAVYA[5]

1. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
2. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
3. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
4. BTECH, NADIMPALLI SATYANARAYANA RAJU INSTITUTE OF TECHNOLOGY , SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA - 531173
5. Assistant Professor COMPUTER SCIENCE AND ENGINEERING, NADIMPALLI SATYANARAYANA RAJUINSTITUTE OF TECHNOLOGY, SONTYAM, VISAKHAPATNAM, ANDHRA PRADESH, INDIA-531173

ABSTRACT

A web-based programme called Visitors Hire (Web Based programme for Rental Vehicles) leases out cars and motorcycles in various regions across India. This technology makes Rentalservices accessible to the general public online and maintains records regarding the services.We created this initiative so that we could use the internet from the comfort of our homes to rent a car at various locations. This website minimises the stress of searching for the offline rental stores for the visitor who comes to explore the numerous cities. We may also look up the prices for various 2-wheeler and 4-wheeler varieties in different cities per hour or for whatever long we wish to rent the vehicle. The customer can choose between manually or automatically operated vehicles. The fact that this website application offers home delivery of the automobile after renting it is one of its best characteristics.
Our main objective is to create a platform where clients can easily reserve cars online without going to an actual dealership.It is mostly useful for the touristers for visiting new places .

1 INTRODUCTION

Traveling is a significant part of every person's life in the country in which we currently reside. There are numerous ways to get from one area to another. However, a lot of people now days choose using private transportation. However, some individuals may be travelling from various locations, some may be tourists who don't have their own private vehicles with them, and some individuals may be locals who don't have private vehicles but desire to travel using their own means of transportation. Finding car rental companies might be challenging for persons travelling from other cities or for tourists.

Many people claim that these are the main challenges they are encountering while shopping for a vehicle because even if they find the automobiles, there is no system in place or ability to compare the actual price with the price the store owners are stating. Additionally, a lot of people don't have the luxury of searching for car rental businesses because they need private transportation in a hurry. Some individuals find it challenging to search for vehicles because there are so few locations where we can find the rental 2-wheel vehicles and 4-wheel vehicles. Because of this, It is crucial to ensure that customers don't waste time traveling, and it should be simple for them to locate the vehicle they need with fare information.

2. LITERATURE SURVEY AND RELATED WORK

1. William J. Carroll (1995): Customers can choose from a variety of automobile types, rental lengths, pickup and drop-off locations, temporary insurance policies, and fueling alternatives from the suggested car rental businesses. In order to determine when certain product combinations will be available, Hertz created its yield management system (YMS) [1].
2. Vijaykumar Mohite et.al (2006): A car rental company wants to build a user interface that will let clients view the models, details, and costs of various vehicles that are offered.The user can register, log in, and view their rental