Sinhgad Technical Education Society's ®
NBN SINHGAD TECHNICALINSTITUTES CAMPUS
Approved by AICTE, New Delhi, Recognized by Government of Maharashtra &
Affiliated to University of Pune (ID No. - PU/PN/Engg/432/2012)
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3.3.2 Number of books and chapters in edited volumes/ books published and papers in national / international conference proceedings

Sr. no	Year	Title of book, book chapter, paper	Name Of Teacher	Title of the publisher, conference proceedings/ journal	page
1	2022	Advanced Java Programming	Mrs. M. P. Navale ,Mr. S. S. Mane	Nirali Publication, Pune.	20
2	2022	Power Devices & Circuits	Mr. S. D. Sawant	NiraliPrakashan	21
3	2022	Hydrology and Water Resource Engineering	Mr.Indrajeet Jain, Mrs.Rohini More Mohekar	Tech-Neo Publications	22
4	2022	Crowdfunded Assassinations and Propaganda by Dark Web Cyber Criminals	Mr .S.P Bendale	IGI Global, 2022	23
5	2022	Semantic Internet of Things (IoT) Interoperability Using Software Defined Network (SDN) and Network Function Virtualization (NFV)	Mr .S.P Bendale	Part of the Studies in Computational Intelligence book series (SCI,volume 941)	24
6	2022	Detection of Fire with Image Processing	Mr .Mihir Chouhan, Ms.Swati Warade, Ms.Priyanka Satkar, Mr .Juned Mulla	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	25
7	2022	Image and Text Encrypted Data with Authorized Deduplication in Cloud	Mr. M. B. Yelpale, Mr Akhil V, Devyani Mr .Sharma, Shashank Nathe, Mr .Aniket Lodhe	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	26

8	2022	Disease Prediction System Based on Support Vector Machine, Random Forest and Naive Bayes	Ms. Aparna M. Bagde, Ms.Shreya Wadkar, Mr .Aditya Patil, Amol Nidankar	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	27
9	2022	Traffic Filtering (QoS) Dataset for SD-WAN	Mr. Vinayak Singh, Ms. Megha Dhar, Mr. Shivanshu Shrivastav, Mr.Asharani Chadchankar	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	28
10	2022	Contact Less Elevator Based on Hand Gestures During Covid 19 Like Pandemics	Mr .Abhishek Rampratap Gupta, Mr .Akshay Vijay Jagdale, Ms.Ashvini Bhagwan Gavane, Ms.Yashi Santosh Gupta, Mr. Prathmesh Bajare	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	29
11	2022	Face Based Attendance System Using Convolutional Neural Network	Ms.Anuja Jadhav, Ms.Yash Joshi, Ms. Vishakha Kalambe	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	30
12	2022	Breaching Personal Bubble Detector Using YOLO V4 Image Processing Algorithm	Mr Abhishek Mohite, Mr Unmesh Sorate, Mr Himanshu Mishra, Mr Ashish Shrivastava, Mr.Sumit Mali	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	31
13	2022	A Novel Solution for Deaf and Dumb Persons Using Machine Learning Approach	Ms. Aparna M. Bagde, Miss. Anjali Shette, Miss. Tanaya Gadekar, Mr. Akash Gupta	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	32
14	2022	Covid-19 Detection System Using Machine Learning	Mr. Shailesh Bendale, Ms.Anshuli Kumari, Mr. Shubham Sable,Mr Palash Dongre,	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	33
15	2022	Better Buy's, An E-Commerce Web-Portal with MAP_STORE	Mr .Sagar Mane, Mr .Unmesh Jathar, Mr Kunal Gunjal, Ms.Prajakta Darekar, Gaurav Chahal	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	34

16	2022	Supply Chain Management in Agriculture using BCT	Mr.Yash Kumar Chaube Mr .Mudassir Shaikh, Mr .Sujit Walmiki, Swapnil Lawande, Mr. Shailesh Benadale	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	35
17	2022	Detection of Fire with Image Processing	Mr .Mihir Chouhan, Ms.Swati Warade, Ms.Priyanka Satkar, Mr .Juned Mulla, Mrs. M. P. Navale, Mr. S. P. Bendale	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	36
18	2022	Skin Disease Classification	Mrs.. Poonam Nagale, Mr .Ghanshyam Chaudhari, Mr . Sagar Dhadge	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	37
19	2022	Feedback Sentiment Classification Using Machine Learning	Mrs.Sonali Sethi, Ms. P.B. Warungse, Mr. Om Prakash, Mr. Aditya Kulkarni, Mr. Radhe Shyam Thakur	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	38
20	2022	Plant Leaf Disease and Fertilizer Prediction	Mrs. Sonali Sethi, Ms. P. B. Warungse,Mr .Gaurav Dahake, Mr .Vaishnav Karadale,	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	39
21	2022	Fruit Quality Detection Using Image Processing	Mr .Suraj Gupta, Mr . Kiran Pujari, Saurabh Nalge, Prakhar, Mr.. S. U. Mali	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	40
22	2022	Stock Prediction Using Technical and Sentimental Analysis	Mr. S. U. Mali, Mr .Ajinkya Admane, Mr .Pranav Dhanawade,	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	41
23	2022	Biometric Attendance System	Mr. S. U. Mali, Ms.Rutika Masne, Ms.Anuja Shinde,	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	42

24	2022	Fake News Identification using SVM	Mrs. M. P. Navale, Mr .Hanumant Naikwade,	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	43
25	2022	Smart Hospital Chatbot-Virtual Consultation and Appointment using NLP and Machine Learning	Mr .Dinesh Bartakke, Mr .Shrikant Virkar, Mr .Sagar Chavan, Mrs. Manisha Navale	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	44
26	2022	Secured Authentication using Face-Auth	Mr .Sagar Mane, Mr .Tejas Nikumb, Mr .Digvijaysing Rajput,	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	45
27	2022	Vision Based Daily Activity Monitoring in an Indoor Environment	Ms. Poonam Nagale, Kshitij Sabale, Mr . Omkar Patole,	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	46
28	2022	Internet-based Smart Agricultural Product Distribution System	Mr .Shailesh Bendale, Mr.Gaurav Nehete, Mr .Shubham Dawkhar,	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	47
29	2022	Securing ATM Transaction with OTP and Facial Recognition Features	Mr .Rutuja Naval, Mr .Ankita Khot, Ms.Samruddhi Khedekar,	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	48
30	2022	Smart Road Damage Detection and Warning using Machine Learning	Mr .Lokesh Thakare, Ms.Pallavi Thorat,Mr. Sagar Mane	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	49
31	2022	E-Commerce Website on Identified Critical Factors of Online Service during an Unprecedented Coronavirus (COVID - 19) Pandemic	Mr .Rishabh Kohale, Mr .Ishan Ajmeri, Ms. A. M. Chadchankar	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	50

32	2022	Traffic Light Violation Detection & Speed Radar	Mr .Hiran Shah, Kartik Srinivasan, Mrs. Aparna Bagde, Mr .S.P. Bendale	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	51
33	2022	Bank Loan Approval Prediction System Using Support Vector Machine and Random Forest Algorithm	Mr .Jayan Kokru, Mr .Abhijeet Shrikant Ghodke, Mr.Prathamesh Chavan, Mr. Sagar Mane	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	52
34	2022	Application for Real Time Object Measurement	Mr .Akash Rane, Mr . Isha Jagtap, Shrvya Mapari,Mr. M. B. Yelpale	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	53
35	2022	Efficient MRI Segmentation and Detection of Brain Tumor using CNN	Mr .Danish Tamboli, Mr .Yahya Nahaliwala, Aakash Aundhkar, Dr. Shailesh Bendale	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	54
36	2022	Privacy-Preserving Media Sharing with Scalable Access Control and Secure Deduplication in Cloud Computing	Mr.Atharv Birari, Mr .Saurabh Bhave, Mr .Pravin Jadhav, Rohit Godse, Mrs.Sonali Sethi	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	55
37	2022	Face and Liveliness Detection Based Smart Bank Locker	Mrs. Poonam Hadke, Mr .Mayur Khandagale, Ms.Asmita Pawar,	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	56
38	2022	Diabetics Prediction System Using Machine Learning	Mr .Darshan Vaijanath Khatal, Mr .Ganseh Dinkarrao Kulkarni, Ms.Shraddha Satish Ksha	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	57
39	2022	Diabetics Prediction System Using Machine Learning	Mr. Santosh Kale, Mr Darshan Vaijanath Khatal, Mr .Ganseh Dinkarrao Kulkarni	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	58

40	2022	Axis Delta Robot Using HMI & Mapp Robotics for Pick and Place	Mr .Rohit R. Mali, Mr .Omkar D. Karpe, Mr .Aniket N. Gonjare	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	59
41	2022	E-Auction: Recommendation System for Farmers using Machine Learning	Mr.Avinash Bhat, Mr .Ahmed Morve, Mahesh Dhokate, Mr.Wasudeo Rahane	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	60
42	2022	Drone Safety System	Mr. Gaurav Pawar, Mr. Pritesh Devdare, Mr Piyush Gawali	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June	61
43	2022	AI-Assisted Prediction on Potential Health Risks	Ms.Ritika Rawat, Mr Nikhil Khatale, Anuja Shinde,Mr. P. P. Gawali	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	62
44	2022	Forged News Identification using SVM	Mr. Piyush Gawali, Ms.Gayatri More, Mr.Chaitanya Tadse	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	63
45	2022	Voice Encryption and decryption using AES Algorithm	Mr .Manthan Patil, Ms.Ankita Mohokar, Ms.Supriya Gorkha,Mr W. P. Rahane	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	64
46	2022	Face Mask Detection using Deep Learning	Mr. Shubham Basule, Mr .Shashank Joshi, Mr .Pawan Mane	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	65
47	2022	Hand Gesture Recognition Using Machine Learning with Convolutional Neural Network (CNN)	Mr .Shubham A. Sangale, Mr .Narayan B. Kirtane, Mr .Avinash A. Bhatane, Mr .R. M. Samant	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	66
48	2022	Hand Gesture Recognition Using Machine Learning with Convolutional Neural Network (CNN)	Mr .Prathamesh Kunjeer, Ms.Madhura Khedkar, Ms.Mansi Chavan, Mr W. S. Rahane	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	67

49	2022	Road Pothole Detection	Mr .Saurabh Hanwate, Akash Patil, Mr. T. R. Patil	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	68
50	2022	Smart Facial Attendance System	Mr. Piyush Gawali, Mr .Atif Khan, Mr .Ayush Singh,Mr.Tejdarshan Bahadure	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	69
51	2022	Framework for the Development of a Tumor	Mr.Jayesh Mohite, Mr .Parimal Bartakke,	National Conference on Cognitive	70
		Cancer Detection System	Ms.Subhasini Priya, Mr. Rahul M Samant	Computing (NCCC-2022) 2nd-3rd June 2022	
52	2022	Covid-19 Digital Medical Passport using Blockchain Technology	Mr Aniket Mote, Ms.Mrunali Jadhav, Ms.Divya Kulkarni, Mr.Rahul Samant	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	71
53	2022	Controlling 4 Axis Delta Robot Using Mapp Technology &Developing HMI	Mr.Vaishnavi Ugemuge, Mr .Pratiksha Yenare. Mr Shahid Tmboli	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	72
54	2022	Controlling 4 Axis Delta Robot Using Mapp Technology & Developing HMI	Mr.Onkar Chavan, Mr.Anand Mulay, Mrs.Umarani Suryawanshi	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	73
55	2022	IoT Based Smart Street Lighting System	Mr.Prajwal Patil, Mr.Abhishek Mali, Mrs.Shamika Jog	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	74
56	2022	Use of Artificial Intelligence Chatbot System for Providing Health Related Information	Mr.Nagnath Dudhnikar, Mr.Pratik Padyal, Mrs. Shamika Jog	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	75

57	2022	Authentication and Authorization Based Industry 4.0 Security System	Mr.Kuber Topale, Mr .Aadeshkumar Sangale, Mrs.Sunita Deshmukh	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	76
58	2022	Face Mask and Temperature Detection Using Convolution Neural Network	Mr.Vishal Nivangune, Mr.Digambar Gavhane, Dr.Makarand Jadhav	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	77
59	2022	Smart Hand Gesture Wheel Chair	Mrs.U.J. Suryawanshi, Ms.Shivani P. Nale, Ms.Neha Bhagade	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	78
60	2022	Smart Communicator for Dumb People	Mr. Surendra Sutar, Mr. Sagar Kumkar,Mr. Shahid Y. Tamboli	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	79
61	2022	Quick Seed Quality Check Using Artificial Intelligence	Mr.Vishal Kamble, Mr.Ejaj Kazi, Mrs. R. S. Mule	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	80
62	2022	Cloud Detection and Tracking System using Machine Learning	Mr .Hameer Mahajani, Mr .Ganadhish Mardikar	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	81
63	2022	Controlling A 4 Axis Delta Robot Using Mapp Cockpit	Mr .Ashwin Shipalkar, Mr .Pratik Nawale, Mr .Sharad Sawant	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	82
64	2022	Agricultural Analysis System Using IOT	Mr .Aditya Khode, Mr .Tejas Warbhe, Mrs. Gouri Bramhankar	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	83
65	2022	An Enhanced Irrigation Approach In Agriculture Using IoT Platform	Mr. Nilesh Jadhav, Mr. Omkar Bane,Mr. S. D. Sawant	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	84

66	2022	Alumni Tracking System	Ms.Pradnya Jadhav, Ms.Sheetal Gavali, Prof.Mrs. Gauri Brahmnakar	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	85
67	2022	Face Recognition Based Attendance System Using Raspberry Pi	Mr .Pankaj G Ghodke, Mr .Prasad M Pasarkar, Mrs.Rohini S Mule	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	86
68	2022	Real Time Object Detection for Blind People Using Machine Learning	Mr.Shreeyash Pitke, Mr .Shubham Chitte, Mrs. S. P. Deshmukh	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	87
69	2022	Automatic Speed Control of Vehicles Based on Signboard Recognition	Mr .Sharad Patil, Mr. Mayur Patil, Ms. Pratiksha Tithe, Ms. Soniya Nigade	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	88
70	2022	Transmission Line Fault Detection Using IoT	Mr .Ganesh Ashokrao Mr .Jadhav, Subhash Mr .Kailas Gulab Giri, Prof. Mr .N. R. Dagade	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	89
71	2022	Renewable Eforecasting for an Integrated Smart Grid	Prof. Mr Nikhil Shelke, Ms. Swati Jankar, Ms. Pooja Mohite, Ms. Pratiksha Koli,	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	90
72	2022	Integrated Automatic Flood Warning and Alert System Using IoT	Mr. S. S. Chavan, Mr .Shubham Santosh Lakhimale, Mr .Rohit Ramuji Pendem, Mr .Mahesh Suresh Patil,	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	91
73	2022	Essential Medicines by Drones in Hospital-to-Hospital Use	Mr. Avinash Chavhan , Mr. Akshay Jadhav, Mr. Rohit Madigar, Mr. Shivam Gujar, Mr. Rohit Sonawane	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	92

74	2022	Arduino Based Automatic Street Lighting for Energy Conversion	Mrs. Minakshi. L. Jadhav, Mr .Sharik Abdulgani Shaikh, Mr .Faisal Sayyad,	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	93
75	2022	Comparative Analysis of Battery with Lithium-Ion Battery for Renewable Energy Storage	Mrs. Priyanka Chawhan, Mr. A. V. Harkut, Mr. P. R. Jawale	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	94
76	2022	Anti-Theft Two-Wheeler System using IoT	Mr. Chanchal C. Ganvir, Mr .Valmik. P. Patil, Mr .Aniket. M. Chatare, Mr. S. D. Yelgatte	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	95
77	2022	Online System for Monitoring Water Quality, Contamination and Managing Pipeline Network	Mrs. Aparna R. Kare, Mr.Praful Rajendra Bhalerao, Mr.Gaurav Kishor Gosavi	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	96
78	2022	IoT Based Smart Accident Monitoring System	Mr. Avinash Chavhan, Ms. Samiksha Matre, Ms. Priya Gajbe, Mr. Prasann Ranjan, Mr. Ayaz Fanan	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	97
79	2022	Performance Evaluation of E-Bicycle through Simulation and Experimental Analysis	Mrs. Priyanka Chawhan, Mr. A. V. Harkut, Mr. P. R. Jawale	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	98
80	2022	Smart Classroom Attendance Using RFID Module	Mr. S. D. Yelgatte, Ms.Swarali Subhash Baravkar,Mr .Pavan Gorakh Gund, Mr .Mandar Chandrakant Kokate,	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	99

81	2022	Aero Dynamic Wind Mill with Reverse Charge Protection for Rural Power Generation	Ms .Tanaya Borde, Ms Pooja Patil, Megha Patil, Prof. Ms. Minakshi Jadhav	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	100
82	2022	Solution for Predictive Maintenance and Battery Life Saver for Electric Vehicles	Mrs. M. L. Jadhav, Vinod Sambhaji Ghuge, Amar Gajanan Mistri, Prasad Shesherao Raut, Vaishnav Madhukar Shevale	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	101
83	2022	End of Palletization Combining Process	Mr. N.S. Shelke,Mr. R.J. Kulkarni, Mayuri Sabale, Lokesh Raj, Ashutosh Galinde, Yadnesh Khanolkar	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	102
84	2022	Design and Development of Wireless Charging Station for E-Mobility using Solar Energy	Akanksha Undale, Ruturaj Ambildhok, Nupur Varkhede, Vaibhav Raut, Prof. Mr. Atul B. Ballal	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	103
85	2022	Child Tracking System	Prof. Aparna Kare, Ms. Anjali Kshirsagar, Ms. Rutuja Bhandare, Ms. Vaishnavi Madole, Mr. Tushar Sontakke	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	104
86	2022	Arduino Based Robotic Arm	Prof. A. B. Ballal, Mr. Aakash Nalwandikar, Mr. Pradip Kendre, Ms. Dipalee Dolas, Ms. Ashwini Mhase	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	105
87	2022	Design and Static Analysis of Piston Head Using Honeycomb Structure	Mr. Gautam Pise, Ms. Roshani Gujar, Mr. Praveen Kumar, Ms. Samruddhi Nimbalkar, Mr. Mahendra Parihar	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	106

88	2022	90 Degree Steering System	Mr. Suresh Bhaisare, Mr. Chaitanya Holey, Mr. Prajwal Chougule, Mr. Nishant Tatkari, Mr. Varad Joshi	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	107
89	2022	Vibration Characteristics and Structural Behavior of Three-Wheeler Aluminum - Composite Square Chassis Using FEA and FFT Analyzers	Mr. Suresh Bhaisare, Mr. Rahul R Patil, Mr. Omkar A Patil, Mr. Saurabh R Patil, Mr. Mohseef Shaikh	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	108
90	2022	Design & Development of Solar Electric Bicycle	Mr. Ravikant K. Nanwatkar, Mr.Abhijit Khairnar, Ms.Trupti Karke, Mr.Saket Edake,	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	109
91	2022	Electricity Generation Using Footstep	Mr. P. D. Gharge, Mr.Safal Dagade, Mr.Abhishek Chau	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	110
92	2022	Smart Braking System	Mr. Omkar Ghogare, Mr. Sanket Attarde, Mr. Madhav Biradar, Mr. K. S. Mahajan, Mr.D. H. Burande	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	111
93	2022	Smart Irrigation System Using IOT	Mr. K. S. Mahajan, Mr. Sushant S Nagare, Mr. Lalit R Lokhande, Mr. Akshay S Nawale	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	112
94	2022	Power Generation using Gym Equipment	Mr. Rajshikhar Roat, Mr. Abhishek Tupe, Mr. Gaurav Satpute, Mr. Rohit Purbia, Dinesh H. Burande	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	113
95	2022	Development of In-Pipe Robot for Cleaning and Inspection	Mr. G. V. Devke, Mr. Ameya Bidwe, Mr. Shubham Ankush, Mr. Vilas Bodke	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	114

96	2022	Fabrication and Experimental Analysis of Lithium-Ion Battery Based Smart Electric Bicycle	Mr. Ravikant K. Nanwatkar, Mr.Rohan K. Awasare, Mr.Omkar G. Tagade,	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	115
97	2022	Design, Manufacturing and Vibration Analysis of Defects in Spur Gear Box	Mr. Ravikant K. Nanwatkar , Miss. Ankita P. Thakurdware, Miss. Prajakta S. Ingole	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	116
98	2022	Design & Manufacturing of Power Generation by Using Gear Mechanism	Mr. K. S. Mahajan, Mr. Akshay Adling, Ms. Radhika Wadhe, Mr. Vidhit Kamble, Mr. Rushikesh Dhume	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	117
99	2022	Automatic Engine Valve Cleaner	Mr. S. A. Gurav, Mr. Sumit Deshmukh, Mr. Ketan Dimble	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	118
100	2022	Regenerative Braking System for Electric Vehicles	Mr. R. K. Nanwatkar, Mr. Krushna Mane, Mr. Mahesh More, Mr. Ajinkya Jagadale, Mr. Vyankatesh Joshi	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	119
101	2022	Solar Powered Grinding Machine with Flywheel	Mr. R. B. Mali, Mr .Bhagyesh Deore, Mr Ram Girhe, Mr .Tejas Karange	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	120
102	2022	Design and Fabrication of Four-Wheel Steering System	Mr. S. D. Bhaisare, Mr .Sahil S. Nadaf, Mr .Akash A. Khavare, Mr .Adesh C. Malunjkar,	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	121

103	2022	Test on CRDI Diesel Engine Using Biodiesel as an Alternative Fuel	Mr. R.A. Solunke, Mr. Abhishek Shekde, Mr. Shubham Mane, Mr. ShriKrishna Kadam, Mr. Suraj Lokhande	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	122
104	2022	Transient Thermal Analysis of Exhaust Manifold for Multi Cylinder Engine	Mr. Onkar Dhumal, Mr. Pranav Butale, Mr. Abhishek Tarkase, Mr. Mayur Kshirsagar, Mr. Kalpesh Kale	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	123
105	2022	Thermoelectric Refrigerator Using Peltier Effect	Mr. V. K. Kulloli, Mr Rajat Kuche, Mr .Shivam Pagar	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June	124
106	2022	Design and Analysis of Pivot Spray Irrigation System	Mr. Gautam Pise, Mr. Shubham Javle, Mr. Atharwa Dabke, Mr. Rishikesh Pawar, Mr. Hrishikesh Pawar	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	125
107	2022	Design and Development of Small Sized Groundnut Oil Extracting Machine	Mr. Govind Devke, Mr. Ganesh Anandas, Mr. Vishal Narwa, Mr. Rishikesh Konde, Mr. Dhruv Sharma	National Conference on Cognitive Computing (NCCC-2022) 2nd-3rd June 2022	126
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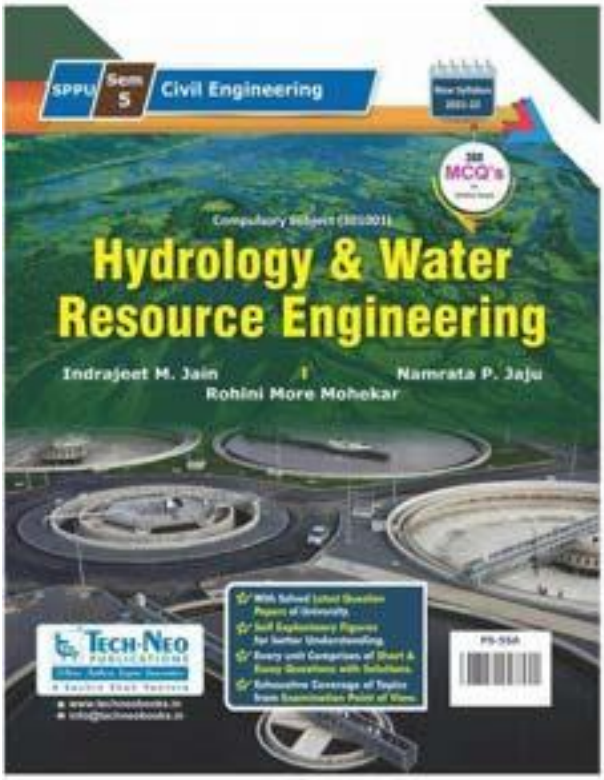

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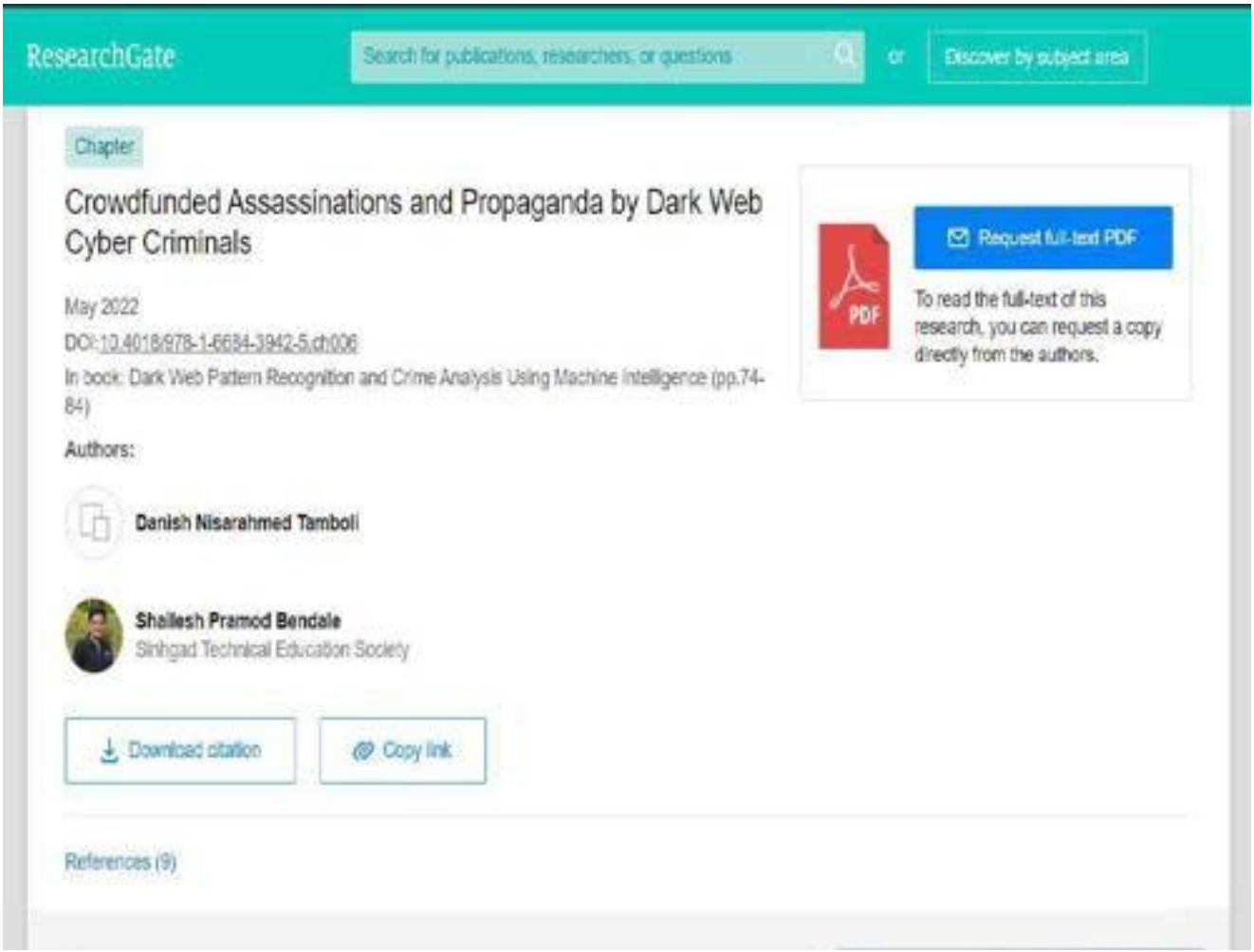

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Detection of Fire with Image Processing

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Department of Computer Engineering, NBN Sinhgad School of Engineering, Ambegaon BK, Pune[1,2,3,4]

Abstract: *In image classification and other computer vision problems, convolutional neural networks (CNNs) have achieved state-of-the-art results. Their use in fire detection systems will significantly enhance detection accuracy, resulting in fewer fire disasters and less ecological and social consequences. However, because of the large memory and processing requirements for inference, the application of CNN-based fire detection systems in real-world surveillance networks is a serious challenge. In this study, we offer an innovative, energy efficient, and computationally efficient CNN architecture for fire detection, localization, and semantic understanding of the fire scenario, based on the Squeeze Net architecture. It makes use of smaller convolutional kernels and avoids thick, fully connected layers, which reduces the computational load. Despite its modest processing requirements, the experimental results show that our suggested approach achieves accuracies comparable to those of other, more sophisticated models, owing to its greater depth.*

I. INTRODUCTION

A RANGE OF SENSORS has recently been introduced for a number of applications, including sending off a fire alarm [1], detecting vehicle obstacles, viewing the interior of the human body for diagnosis [2] - [4], animal and ship monitoring, and surveillance [5]. Surveillance is the application that has drawn the most attention from researchers due to the greater embedded processing capabilities of cameras. Various abnormal events, such as traffic accidents, fires, medical emergencies, and so on, can be identified early using smart surveillance systems, and the proper authorities can be notified autonomously [6], [7]. A fire is an unusual occurrence that can do major harm to people and property in a short period of time [8]. Human error or a system breakdown are the most common causes of such

7.Image and Text Encrypted Data with Authorized Deduplication in Cloud by Prof. M. B. Yelpale, Akhil V, Devyani Sharma, Shashank Nathe, Aniket Lodhe

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Image and Text Encrypted Data with Authorized Deduplication in Cloud

Prof. M.B. Yelpale[1], Akhil V[2], Devyani Sharma[3], Shashank Nathe[4], Aniket Lodhe[5]

Faculty, Department of Computer Engineering, MES Sinhgad School of Engineering, Pune, India[1]

Students, Department of Computer Engineering, MES Sinhgad School of Engineering, Pune, India[2,3,4,5]

Abstract: In this work, role reversal great is employed in a secure role reversal system in monetary data leakage and deduplication. It also looks for evidence of knowledge to see whether the user is an authorized one. Due to for the sake of effectiveness. The role reversal system approach involves storing the secret key for the associated authorized user in order to access a specific file without exposing personal information. If a use both the social use of text and digital visuals to one indicator. For social photographs, for example, are stored on our mobile phones, portable devices, computers, and other gadgets. As these photographs must be kept confidential, we are encrypting them. Nowadays, the text file is equally significant for users. It must be kept safe on a cloud server. Digital photographs must be safeguarded during transmission, but personal identity information such as copies of a pan card, passport, SIM card, and so on, should be stored in a single copy. To minimize duplication in our proposed system, we are securing the text file and picture data.

Keywords: Deduplication, Encryption, Decryption, AES, MD5, etc.

I. INTRODUCTION

As social media grows in popularity and use, people are posting, sharing, and sending info at record numbers. The majority of software apps, social media sites, and businesses utilize cloud services to store their massive amounts of data. Files with the same content might be uploaded by the same or different users, causing the system to store the same files again and over- wasting the relatively costly storage space purchased from cloud service providers. Existing cloud storage companies' deduplicate data to maximize wasting space, which benefits both themselves and their consumers. Deduplication may see a backup storage requirements by up to 90% percent [11] and regular file system storage requirements by up to 50 percent. Encrypting the same files with different keys ordered by users results in the generation of different cypher messages, even though the underlying plain text is the same. 1 for a result, standard encryption fails to data de-duplication on encrypted files. However, encryption is expected to protect the security and secrecy of data.

Present deduplication technologies, however, cannot guarantee the data's robustness. Furthermore, many deduplication technologies require the data owner to all be brought online 1 in order to exchange a convergence key, therefore data must cannot be performed just at time it is requested. Previous systems do not address storage server assaults and data tainted in such attacks. In this research, 1 we propose a deduplication method which is based on an erasure correction technique that splits the file into shards and distributes it over several cloud storage providers' services. Even if only one of the services is attacked by an intruder, the system can reorganize the original files using the remaining of repaired shards. Like a outcome, the system can guarantee the encrypted file's dependability and robustness.

II. MOTIVATION

Encrypted file deduplication schemes can enhance cloud storage space utilization while still protecting file privacy. We Try to secure File Security in Encrypted format.

III. LITERATURE SURVEY

Chopp Jacob, Rekha V. K. "SECURED AND RELIABLE FILE DEDUPE SYSTEM WITH

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8.Disease Prediction System Based on Support Vector Machine, Random Forest and Naive Bayes by Ms. Aparna M. Bagde, Shreya Wadkar, Aditya Patil, Amol Nidankar

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Disease Prediction System Based on Support Vector Machine, Random Forest and Naive Bayes

Ms. Aparna M. Bagde[1], Shreya Wadkar[2], Aditya Patil[3], Amol Nidankar[4]

Assistant Professor, Department of Computer Engineering, NDN Sinhgad School of Engineering, Pune[1]

UG Student, Department of Computer Engineering, NDN Sinhgad School of Engineering, Pune[2,3,4]

Abstract: *The development and application of several leading data-mining techniques in many real-world application areas, e.g., industrial, healthcare, and life sciences, has led to their use in machine learning environments to extract important pieces of information from specified data in health communities, branches of fields, and so on. Accurate medical database analysis benefits early disease detection, patient care, and community services. Machine learning techniques have been successfully used in a variety of applications, including early-stage disease prediction and diagnosis. This study demonstrates a disease prediction system built with machine learning algorithms such as the Decision Tree classifier, the Random Forest classifier, and the Naive Bayes classifier.*

Keywords: Machine Learning, Data mining, Decision Tree classifier, Random Forest Classifier, Naive Bayes Classifier, etc.

I. INTRODUCTION

Today's healthcare industry is a multibillion-dollar enterprise. The healthcare industry uses and generates a huge amount of data that can be used to extract information about a disease for a patient. This healthcare data will be used to develop the most effective and efficient treatments for patients' health. This area also requires some improvement through the use of informative data in healthcare. Therefore, because there is so much data to extract information from, some data mining and machine learning techniques are used.

The expected outcome of this project is to predict the disease in advance, so that the risk of death can be avoided early on, lives can be saved, and treatment costs can be reduced. India should also adopt the recommended medical treatment system, which is best suited for improving and comprehending human health. The main reason is to apply the concept of machine learning in healthcare to improve patient care. Machine learning has already made identifying and forecasting various diseases much easier. Many machine learning algorithms used in disease prediction analytics help to predict diseases and treat patients effectively. Machine learning disease prediction employs medical histories and health data, as well as data mining and machine learning techniques and algorithms. Malaria, dengue fever, empirigo, diabetes, migraines, jaundice, chickenpox, and other health issues have a significant impact on health and can even result in death. By "evaluating" their massive database, the healthcare industry can make an informed decision. Specifically, the hidden patterns and relationships in the database were extracted. Data mining algorithms such as decision trees, random forests, and naive Bayes can be useful in this situation. As a result, they created an automated system that can discover and extract hidden knowledge associated with diseases from a historical database (disease symptoms) using the respective algorithms' rules set.

Overview:

The dataset under consideration contains 132 symptoms, the combination or permutation of which results in 41 diseases. Based on the 4920 patient records, we hope to create a prediction model that takes the user's symptoms and predicts the disease he is most likely to have.

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Table 1: Diseases and Symptoms

Sr. No.	Disease	Symptom		Sr. No.	Disease	Symptom	
1	Back pain	Bloody stool	worrying	20	Diabetes	Hepatitis D	Hyperthyroidism
2	Constipation	depression	Passage of gases	21	Gastroenteritis	Hepatitis E	Hypoglycaemia
3	Abdominal pain	Irritation in anus	Weakness in limbs	22	Bronchial Asthma	Alcoholic hepatitis	Cervical Spondylosis
4	diarrhea	Neck pain	Fast heart rate	23	Hypertension	Tuberculosis	Arthritis
5	Mild fever	dizziness	Inflated feeling	24	Migraine	Common cold	Osteoarthritis
6	Yellow urine	cramps	Toxic look	25	Paralysis	Pneumonia	
7	Yellowing of eyes	bruising	Palpitations	26	Jaundice	Heart Attack	
8	Acute liver failure	obesity	Painful walking	27	Yellow crust ooze	Swelling joints	Coma
9	Fluid overload	Swollen legs	Pressure in the chest	28	Loss of smell	Stiff neck	Osteoporosis
10	Swelling of stomach	avoidance	Filled mucus	29	Movement stiffness	Muscle weakness	Leg Spr
11	Swelled lymph nodes	Swollen blood vessels	Excessive hunger	30	Spinning movements	Red spots over body	Weakness of one body side
12	Blurred and distorted vision	Pain in anal region	Pain during bowel movements	31	Bladder discomfort	Foul smell of urine	Continuous feel of urine
13	Fungal infection	Malaria	Yellow eyes	32	Altered sensorium	Red spots over body	Abnormal menstruation
14	Allergy	Chickenpox	Hypothyroidism	33	Dehydration	Watering from eyes	Increase appetite
15	Gout	Dengue	Vertigo	34	Lack of concentration	Visual disturbances	Receiving blood transfusion
16	Chronic cholestasis	Peptic ulcer disease	acne	35	Receiving unusual injections	Distention of abdomen	History of alcohol consumption
17	Drug reaction	Hepatitis A	Urinary tract infection	36	Pus filled pimples	Blood in sputum	Stomach bleeding
18	Ulcer	Hepatitis B	Psoriasis	37	Silver like dusting	Small dents in nails	Inflammatory (nail)
19	AIDS	Hepatitis C	Impetigo	38	Mumps		

9.Traffic Filtering (QoS) Dataset for SD-WAN by Mr. Vinayak Singh, Ms. Megha Dhar, Mr. Shivanshu Shrivastav, Prof. Asharani Chadchankar

10.Contact Less Elevator Based on Hand Gestures During Covid 19 Like Pandemics by Abhishek Rampratap Gupta, Akshay Vijay Jagdale, Ashvini Bhagwan Gavane, Yashi Santosh Gupta, Prof. Prathmesh Bajare

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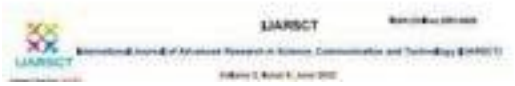

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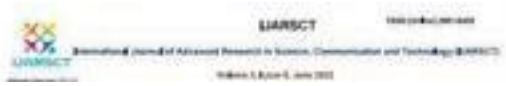

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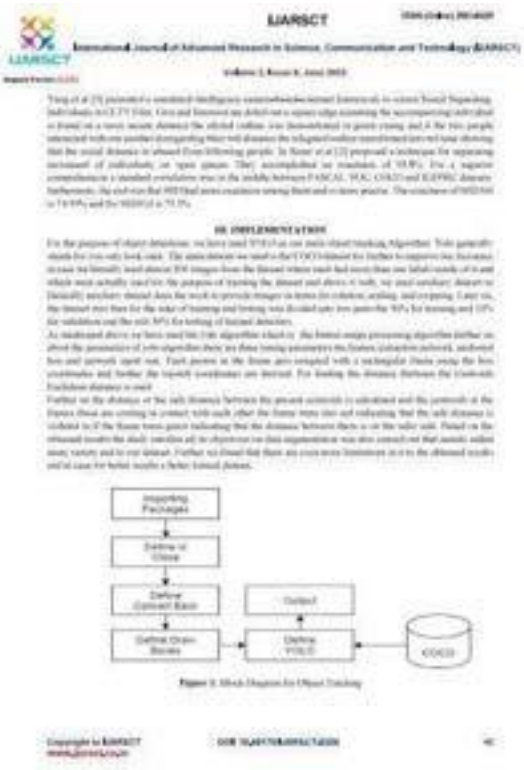

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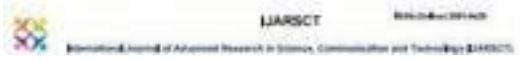

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A Novel Solution for Deaf and Dumb Persons Using Machine Learning Approach

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Covid-19 Detection System Using Machine Learning

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Abstract: *The coronavirus epidemic of 2019 is spreading over the earth (COVID- 19). The treatment advancements in artificial intelligence (AI) technology have increased the capacity of imaging software and supported medical specialists in the transnational fight against COVID- 19. The rapid fire responses to COVID- 19 in the medical imaging community are examined in this section enhanced by AI. For illustration, AI- enabled image perusal might play a key part in automating the check up process and reshaping the workflow to reduce patient enrollment and cover imaging technicians. The accurate delineation of infections in X-ray filmland allowing AI to boost labour productivity and encourage quantification. In addition, radiologists use computer-supported platforms to do clinical assessments similar as opinion, monitoring, and prognosis.*

Keywords: COVID-19, Deep Learning, Convolution Neural Network, Noisy Marker, Segmentation, Lung Infection, etc

I. INTRODUCTION

Since the storming of 2020, the coronavirus complaint 2019 (COVID- 19) has come a global epidemic. The World Health Organization (WHO) has declared the complaint a Public Health Emergency of International Concern (PHEIC) until the end of January 2020. further than 11 million cases of COVID19 had been proved worldwide as of April 10, 2020, with over 92 thousand deaths. Fever, cough, and tiredness of breath are the most common symptoms in COVID- 19 cases, and they generally have pneumonia. Xray imaging is vital for the applicable opinion and follow- up assessment of COVID- 19 symptoms in the lung, where segmentation of infection lesions from Xray images is important for quantitative dimension of complaint development. Automatic segmentation of lesions from 3D r-shapes is extremely desirable in clinic practice since homemade segmentation of lesions from 3D volumes is laborfarsome, timeconsuming, and subject to omit and intra observer variability.

Automatic segmentation of COVID- 19 pneumonia lesions from CT images is delicate for colorful reasons despite its relish for individual and treatment opinions. To begin, infection lesions can take on a variety of complex forms, including Ground- Glass sclerosis (GGO), reticulation, connection, and others. Second, the sizes and locales of pneumonia lesions change significantly amongst cases and during different phases of infection.

Moreover, the lesions have irregular shapes and squishy borders, and some lesions patterns, similar as GGO, parade low discrepancy with the girding regions. This design has three objects. First, we propose a novel noise-sentient Romeo loss function, which is a combination and generalization of MAE loss that's robust against noisy labelling and Dotaxe loss that's adept to locate background turbulence for training CNNs to chamber COVID19 pneumonia lesions. Second, we effect a unique uproar- sentient literacy frame grounded on some assembly of CNNs in which an EMA (a.k.a. schoolmaster) of a model is used to guide a standard model (a.k.a. pupil) to ameliorate robustness.

We propose two adaptive mechanisms to more deal with noisy markers, in discrepancy in former frame-assembling styles for semi-supervised literacy and sphere adaption adaptive schoolteacher that suppresses the dominion of the pupil to EMA when the ultimate has a large training loss, and adaptive pupil that learns from the schoolteacher only when the schoolteacher outperforms the pupil.

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Eventually, to more deal with complex lesions, we propose a new COVID- 19 Prominent Lesion Segmentation Network (COPLE-Net) that employs ground layers to ground the semantic gap between encoder and decoder features and uses a combination of nonconvex pooling and average pooling to reduce information loss during down slice accurate and effective imaging results in COVID- 19 operations.

II. LITERATURE SURVEY

N. Zhu, D. Zhang, W. Wang, X. Li, B. Yang, J. Song, X. Zhao, B. Huang, W. Shi, R. Lu, P. Niu, F. Zhan, X. Ma, D. Wang, W. Xu, G. Wu, G. F. Gao, and W. Tan, "A novel coronavirus from patients with pneumonia in China, 2019," Engl. Med., vol. 382, pp. 727–733, 2020. Our molecular ways and unprejudiced DNA sequencing to discover a new beta coronavirus to find 2019-nCoV infection encyclopedically and in China. This study doesn't fulfill Koch's postulations. In December 2019, a cluster of cases with pneumonia of unknown cause was linked to a seafood nonconmercial request in Wuhan, China. A preliminarily unknown beta coronavirus was determined through the use of unprejudiced sequencing in samples from cases with pneumonia. mortal airway epithelial cells were used to insulate a new coronavirus, named 2019-nCoV, which formed another clade within the subgenus sarbecovirus, Orthocoronavirinae subfamily. Different from both MERS- CoV and SARS- CoV, 2019-nCoV is the seventh member of the family of coronaviruses that infect humans [1].

D. Benvenuto, M. Giovanetti, M. Salemi, M. Prosperi, C. De Flora, L. C. Junior Alcantara, S. Angeletti, and M. C. "The spread of 2019- nCoV A molecular evolutary", Describe The global spread of 2019- nCoV, combining epidemiology with molecular evolutionary data in a Bolshie approach to processe for understanding the Only clearly contagion transmission dynamics and trace its original epidemic spread. This study describes the same population infectivity dynamic underpinning the SARS 2003 epidemic, and suggests the critical need for the development of effective molecular surveillance strategies of Beta coronavirus among creatures and Rhinolophus of the clob family. Pathog. Glob. Health, pp. 1 – 8, 2020. contagion epidemic history and transmission in order to apply effective public health measures and help subvert pandemics like SARS- CoV and 2019-nCoV [2].

F. Shi, J. Wang, J. Shi, Z. Wu, Q. Wang, Z. Tang, K. He, Y. Shi, and S. "R ed Artificial intelligence ways in Imaging Data Acquisition, Segmentation and opinion for COVID- 19," B Biomed Eng., vol. 1035, no. e-pp. 1–13, 2020. Authors particularly concentrate on the integration of AI with Xray and CT. Fabricated segmentation ways imaging data in COVID- 19 operations may have deficient, intract and inaccurate markers, which provides a challenge for training an accurate segmentation and task related network. This paper discusses how AI provides safe, accurate and efficient imaging solutions in COVID19 applications. The intelligent imaging platforms, clinical options, and introducing exploration are reviewed in detail, which covers the entire channel of AI- empowered imaging operations in COVID- 19. Two imaging modalities, i.e. Xray and CT, are used to demonstrate the effectiveness of AI- empowered medical imaging for COVID- 19[3].

L. Huang, R. Han, T. Ai, P. Yu, H. Kang, Q. Tao, and L. Xia, conduct CT measurement of COVID- 19 Deep- The quantitative CT parameter calculated by the deep literacy system showed significant differences at first mentioned deep learning systems. The purpose of this study was to assess a quantitative CT Image Parameter, defined as the chance of lung opacification (QCT- PLO), calculated automatically using a deep literacy tool. We extended Radio Cardio thorac. Imaging, vol. 2, p. e200075, 2020. both among four clinical types coll [5-9-11]. Lung opacification chance may be used to assess complaint progression and help understand the course of COVID- 19. QCT- PLO in covid-19 cases at birth and on follow up scrutiny, featuring on census sectional and longitudinal differences in cases with different degrees of clinical inflexibility [4].

J. Lei, J. Li, X. Li, and X. "Ct-ased the 2019 new coronavirus (2019- n Cpneumonia Radiology:, p. 200236, 2020 Working on CT imaging first mentioned any algorithms or ways on the linear of epidemiologic characteristics, clinical monifestations, cooker imagcs, and laboratory findings. the opinion of 2019- nCoV pneumonia was made.

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15.Better Buy's, An E-Commerce Web-Portal with MAP_STORE by agar Mane, Unmesh Jathar, Kunal Gunjal, Prajakta Darekar, Gaurav Chahal

Better Buy's, An E-Commerce Web-Portal With MAP_STORE

16.Supply Chain Management in Agriculture using BCT by Yash Kumar Chaubey, Mudassir Shaikh, Sujit Walmiki, Swapnil Lawande, Prof. Shailesh Benadale

Supply Chain Management in Agriculture using BCT

Yash Kumar Chaubey[1], Mudassir Shaikh[2], Sujit Walmiki[3], Swapnil Lawande[4], Prof. Shailesh Benadale[5]

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Abstract: *Supply Chain Management' is that the foremost recent name compared. It first appeared in logistics books within the 1980s as a way to manage inventory focused on supplying raw materials. Transportation managers insupermarkets, supermarkets, and other high-tech industries have realized that handling goods in and out of their 'inbound' and 'outbound' routes can provide significant competitive advantage. The processes involved in Supply Chain Management are as follows: Integrated Planning, Implementation, Integration, and Control are all a part of an integrated planning process. As a result, SCM is an integrated system for planning, implementing, coordinating, and managing all Agri-required business processes and operations to create and deliver products that meet customer preferences and requirements as efficiently as possible. This study presents an agricultural procurement management system supported the BCT to create the ASC transparent and freed from corruption.*

Keywords: ASC, BCT, AES, visual cryptography, SHA 256, Java, JSP, Sevlet, Web, etc.

I. INTRODUCTION

On the opposite hand, the provision chains of various agricultural products in India are burdened with difficulties because of the natural concerns of the agricultural sector. Various economic concerns, similar to the expansion of small-scale farmers, different chains, economic instability, low processing / value addition, lack of promoting resources, etc., have a control on the country's agricultural supply chain. As a results of lower inventory and faster response timesto customer needs for products and services, the first success of supply chain management has shown improved coherence between inventory storage and transportation within organizations. so, on compete effectively within the marketplace, supply chain managers have moved on to the logistics phase, where additional departments within the firms near integrate production, procurement, transportation, distribution, and marketing. The introduction of communications, electronic data links, and other new

17.Detection of Fire with Image Processing by Mihir Chouhan, Swati Warade, Priyanka Satkar, Juned Mulla, Prof. M. P. Navale, Prof. S. P. Bendale

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Detection of Fire with Image Processing

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Abstract: *In image classification and other computer vision problems, convolutional neural networks (CNNs) have achieved state-of-the-art results. Their use in fire detection systems will significantly enhance detection accuracy, resulting in fewer fire disasters and less ecological and social consequences. However, because of the large memory and processing requirements for inference, the application of CNN-based fire detection systems in real-world surveillance networks is a serious challenge. In this study, we offer an innovative, energy efficient, and computationally efficient CNN architecture for fire detection, localization, and semantic understanding of the fire scenario, based on the Squeeze Net architecture. It makes use of smaller convolutional kernels and avoids thick, fully connected layers, which reduces the computational load. Despite its modest processing requirements, the experimental results show that our suggested approach achieves accuracies comparable to those of other, more sophisticated models, owing to its greater depth. Furthermore, this paper.*

I. INTRODUCTION

A RANGE OF SENSORS has recently been introduced for a number of applications, including sending off a fire alarm [1], detecting vehicle obstacles, viewing the interior of the human body for diagnosis [2] - [4], animal and ship monitoring, and surveillance [5]. Surveillance is the application that has drawn the most attention from researchers due to the greater embedded processing capabilities of cameras. Various abnormal events, such as traffic accidents, fires, medical emergencies, and so on, can be identified early using smart surveillance systems, and the proper

18.Skin Disease Classification by Prof. Poonam Nagale, Ghanshyam Chaudhari, Deep Kukkadgaonkar, Sagar Dhadge

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Skin Disease Classification

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Students, Department of Computer Engineering, NBN Sinhgad School of Engineering, Pune[2,3,4]

Abstract: *The proposed structure contains various disorders, for instance, Atopic Dermatitis, Nail parasite disease, Psoriasis ailment acknowledgments and Ringworm affliction stages conjectures. High speed of passings on account of steady disorders, for instance, Dermatitis, Nail development contamination, Psoriasis disease IDs and Ringworm disease need to cultivate genuine investigation system which serves to trained experts. Some unacceptable examination prompts human passings so we want to oversee definite affirmation of different skin sicknesses. Many works are by and by destroyed various ailments however there isn't any consoling strategy tracked down that gives distinct confirmation for altogether cases. The proposed structure includes different defilements like Dermatitis, Nail improvement hardship, Psoriasis infirmity region and Ringworm infection unmistakable bits of confirmation and stages suspicions. We are attempting to support structure for multi-illness ID and stages suspicions gives early affirmation and saves loads of lives by lessening passing rate by skin issues. In this paper we utilized convolutional brain network for infection distinguishing proof. We get the 94.4% precision on 100 cycles. We are also recommending the hospital by using KNN algorithm.*

Keywords: Multi Disease Detection, Convolutional Neural Network, Neural Network, Deep Learning, KNN, etc.

19.Feedback Sentiment Classification Using Machine Learning by Prof. Sonali Sethi, Prof. P.B. Warungse, Mr. Om Prakash, Mr. Aditya Kulkarni, Mr. Radhe Shyam Thakur

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Feedback Sentiment Classification Using Machine Learning

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Department of Computer Science, NBN SINHGAD School of Engineering, Pune, India[1,2,3,4,5]

Abstract: *In recent years e-commerce and trend towards the online purchasing is increased, people often purchase the most of products from e-ecommerce shopping websites, customers rely on the number of reviews and stars of products to choose the right product for them. Fraud companies also pay fraudsters to increase the rating of a product, this tends to mislead the people and people end up with the product that they are not satisfied with. This can be stopped to some extent by using machine learning algorithms. The proposed method uses Machine Learning Algorithms like Naive Bayes, CNN, Support Vector Machine, Logistic regression Classifier which helps the people to differentiate disappointed feedback and satisfied reviews.*

Keywords: Amazon Dataset, Naive Bayes, Support Vector Classifier, Convolutional Neural Network, Logistic regression Classifier, Feedbacks Classification, Supervised Machine Learning, Flask, etc.

I. INTRODUCTION

The aim of the project is to classify the user reviews into satisfied and disappointed, which is useful for customers as well as e-commerce companies. Before the pandemic, e-commerce was not so popular among people. People used to buy products & goods from the local stores, market, malls etc. But, when the pandemic starts, online shopping is the only easy way for people to fulfill their needs because of the restrictions. During the pandemic, e-commerce has become the conventional way for people to buy a product as online shopping grows in popularity shoppers continue to depend on online reviews for the authenticity of the product. 3 out of 4 people trust online reviews as much as personal recommendations.

20.Plant Leaf Disease and Fertilizer Prediction by Prof. Sonali Sethi, Prof. P. B. Warungse, Gaurav Dahake, Vaishnav Karadale, Sakolkar Rushikesh, Niranjan Bankar

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Plant Leaf Disease and Fertilizer prediction

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Students, Department of Computer Engineering, NBN Sinhgad School of Engineering, Pune[3,4,5,6]

Abstract: *Each country's essential need is Agricultural items. Assuming plants are tainted by infections, this effects the country's horticultural creation and its monetary assets. In horticulture for an effective harvest yield early recognition of illnesses is significant. Programmed strategies for order of plant illnesses additionally help making a move later distinguishing the side effects of leaf illnesses. In the rural area, recognizable proof of plant infections is incredibly critical as they hamper strength and soundness of the plant which assume a crucial part in rural efficiency. These issues are normal in plants, in the event that legitimate anticipation techniques are not approached it could in a serious way influence the development. The flow strategy for identifying illness is finished by a well-qualifier's perspective and actual examination, which is tedious and expensive in reality. We are presenting the man- made consciousness based programmed plant leaf infection location and characterization for fast and simple discovery of illness and afterward grouping it. This principal point of our own framework is towards expanding the efficiency of yields in farming. In this approach we have follow a few stages for example picture assortment, picture preprocessing, extraction of element and order.*

Keywords: Convolutional Neural Network (CNN), Fertilizer, Leave Diseases, Agriculture, etc.

I. INTRODUCTION

Agribusiness assumes a vital part in the financial development of any Country. It is the field which exceptionally influence the GDP of the nations. Horticulture area contributes around 16% of GDP of India.

21.Fruit Quality Detection Using Image Processing by Suraj Gupta, Kiran Pujari, Saurabh Nalge, Prakhar, Prof. S. U. Mali

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Fruit Quality Detection Using Image Processing

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Faculty, Department of Computer Engineering, NBN Sinhgad School of Engineering, Pune[5]

Abstract: *A programmed organic product quality review framework for arranging and evaluating of natural products is favorable to presented. The nature of organic product is a fundamental variable for the client: thus, it is essential for showcasing a consistently great natural product. The manual examination framework for arranging is supplanted in this framework. The framework is simply programming based. The framework execution for the most part relies upon edges utilized for size and variety. However, the worth of size and variety will fluctuate with an alternate picture yet the created framework didn't need change in that frame of mind for evaluating of natural products. This framework helps in accelerate process, further develop exactness and proficiency. The framework precision is around 93percent. The picture handling is completed, and elements like tone, size, and glare are removed and handled for nature of organic products.*

Keywords: Convolutional Neural Network, Fruit Disease, Quality, Image Processing, etc.

I. INTRODUCTION

Organic product nondestructive location is the most common way of identifying natural products' inside and outside quality with practically no harm, utilizing a distinguishing innovation to make assessment concurring a few standard guidelines. These days, the nature of organic product shape, default, variety and size, etc. can't assessed on line by the customary techniques. With the improvement of picture handling innovation and PC programming and equipment, it turns out to be more appealing to identify natural products' quality by utilizing vision recognizing technology. At present in India agribusiness is generally significant for a developing economy. Various kinds of natural products are delivered in India. In India, all the pre-collect and the post-reap process are

22.Stock Prediction Using Technical and Sentimental Analysis by Prof. S. U. Mali, Ajinkya Admane, Pranav Dhanawade, Satyam Wagh, Harshad Gandhale

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Stock Prediction Using Technical and Sentimental Analysis

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Abstract: *Stock market movement prediction is a well-known problem of interest. These days, social media accurately reflects public attitude and opinion on current events. Researchers have focused their attention on Twitter in particular to examine popular sentiments. Stock market forecasting using public emotion conveyed on Twitter has been a fascinating area of study. The approach employed in sentimental analysis is to look at how strongly stock price changes, such as gains and decreases, are associated to people's Twitter opinions. Sentimental analysis aids in the examination of public opinion on Twitter; we took this approach by employing sentimental analysis. Another approach in the same topic of our project is using technical analysis. We use a multiple kernel learning regression framework to model the stock price movement as a function of these input features and solve it as a regression problem. The machine learning coupled with fundamental and/ or technical analysis also yields satisfactory results for stock market prediction. We also evaluated the model for taking buy-sell decision at the end of day which is also known as intraday trading.*

Keywords: Sentimental Analysis, Regression, Machine Learning, Prediction, etc.

23.Biometric Attendance System by Prof. S. U. Mali, Rutika Masne, Anuja Shinde, Prathviraj Patil

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Biometric Attendance System

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Abstract: *Managing the attendance in school has proven to be a great burden to teachers and pupils. As of late, automatic attendance systems have been introduced to help solve these issues by creating a more interactive and computerized environment in order to allow teachers to better track the performance of their students. The Open-Source Technology Center (OTC) program is an application that was created using the Qt framework. This program runs on Linux and utilizes the OpenCV library in order to read the faces of students when theyenter the classroom and mark their presence on a control panel interface, which is then also streamed throughα local server through UDP protocol. The system uses MVC architecture, allowing for easy separation between data, models and controllers. The model consisting of face detection is dereloped using dlib librarieswhich allows for more advanced modeling.*

Keywords: Attendance System, Automated Attendance, Image Processing, Face Detection, Feature Matching, Face Recognition, etc.

I. INTRODUCTION

Face recognition technology is based on the extraction of facial features such as eyes, nose, ears, etc., and then storing them in an encrypted format. Face recognition works better than other biometric system like finger print, palm-print and iris because of its non-contact process. Facial features are more stable than finger-print or palm-print and provide more uniqueness than iris. Almost all the major companies like Google, Facebook are now implementing face recognition for security purpose. A face recognition methodology is described in this paper that works with real surveillancevideo captured under uncontrolled light conditions and various face poses. The proposed methodology is an incremental learning framework, wherein a system incrementally learns to predict face depictions from a small set of latent variables. The system utilizes limited number of local imagepatches

24.Fake News Identification using SVM by Prof. M. P. Navale, Hanumant Naikwade, Nilofar Nadaf, Pooja Sagade, Sarika Mane

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Fake News Identification using SVM

Prof. M. P. Navale[1], Hanumant Naikwade[2], Nilofar Nadaf[3], Pooja Sagade[4], Sarika Mane[5]

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Abstract: *Papers are the essential wellspring of information for individuals around the world. Nonetheless, off late, because of the critical development and updates in innovations, there has been a staggering ascend in the fame of web-based entertainment. The quantity of individuals who utilize social media has expanded surprisingly. As an outcome, informal organizations like social media, sites, web journals, and so forth have arisen as significant stages to accumulate various types of information. Individuals depend more on informal organizations than papers nowadays. With the accessibility of the web, these organizations can be gotten to without any problem. This can prompt simple control of the current news, in this manner causing counterfeit news. Counterfeit news can be utilized as a fundamental apparatus to extend individuals in an incorrect manner. It can spread disdain among individuals which can additionally hurt the general public. Consequently, it is extremely important to forestall the spread of phony news. The proposed depicts the different methods from SVM and model prepared utilizing SVM utilized for the discovery of phony news. Our venture expects to use SVM Techniques to straightforwardly recognize counterfeit news, in light of the text content of information article.*

Keywords: Fake News, Fake News Detection, Machine Learning, Dataset, etc.

I. INTRODUCTION

As a rising measure of our lives is spent connecting on the web through online entertainment stages, an ever-increasing number of individuals will generally chase out and consume news from social media rather than customary news associations. The clarifications for this adjustment in utilization ways of behaving are inborn inside the idea of those online entertainment stages: (I) it's generally expected all the more convenient and less costly to consume news on friendly media contrasted and customary news-casting, like papers or TV; and (ii) it's more straightforward to additional offer, examine, and talk about the news with companions or different online entertainment. For example, 62% of U.S. grown-ups get news via online entertainment in 2016, while in 2012; just 49 percent announced seeing news via online entertainment [1].

It had been likewise found that web-based entertainment currently beats TV in light of the fact that the major news

25.Smart Hospital Chatbot-Virtual Consultation and Appointment using NLP and Machine Learning by Vijay Ingawale, Dinesh Bartakke, Shrikant Virkar, Sagar Prof. Manisha Navale

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Smart Hospital Chatbot-Virtual Consultation and Appointment using NLP and Machine Learning

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Guide, Computer Engineering, NBN Sinhgad School of Engineering Ambegaon bk, Pune[5]

Abstract: *Healthcare services face a huge challenge of supply-and-demand which you can fix when we create a digital platform. In the traditional healthcare system, patients would go to the hospitals, and they always have to wait for appointments and medical reports. Also, conversation between doctors and patients about their health status and daily lives is not fully remembered by the doctor as well as patients. So, to improve the doctor-patient interaction, we will design and implement a machine learning framework that contains a chatbot, voice transcription and other functionalities. The proposed Medical Chatbot can interact with the users, giving them a realistic experience of chatting with a medical Professional. Our motive is to show that the proposed medical chatbot could be a better alternative to many already existing chatbots in the domain of medicine. An AI enabled conversational UX can deliver personalized experiences to your patients for identifying the illness, scheduling doctor appointments, notifying caregivers about symptoms, monitoring the health status, updating the homecare assistant from time-to time and more. Also, the proposed system converts the voice to text first and then generates prescriptions automatically by extracting the keywords and provides the prescription in the desired format automatically. This system can also generate prescriptions efficiently with just the audio file of the conversation between the doctor and the patient through a phone call.*

I. INTRODUCTION

A chatbot or conversational agent is software that can communicate with a human by using natural language. One of the essential tasks in artificial intelligence and natural language processing is the modelling of conversation. Since the beginning of artificial intelligence, it's been the hardest challenge to create a good chatbot. Although chat bots can perform many tasks, the primary function they have to play is to understand the utterances of humans

26.Secured Authentication using Face-Auth bySagar Mane, Tejas Nikumb, Digvijaysing Rajput, Suved Chougule, Mahesh Gaikwad

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Secured Authentication using Face-Auth

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B.E. Students, Department of Computer Engineering, NBN Sinhgad School of Engineering, Pune[1,2,3,4,5]

Abstract: *These days, maximum of the apps is using the traditional technique of username and password device and focusing on how to make passwords extra secured the usage of encryption strategies, however because of day-by-day new vulnerabilities & its limitations, presently many corporations are shifting toward a new manner of Third-party authorization system. We are created new Authentication System as Face Auth Web App System using Biometric Face Recognition, so user can easily Login & Signup using Face Authentication Process which is very secure & easier to use.*

Keywords: Third-Party Authentication, Transport Layer Security (TLS), Privacy, Machine Learning, Face Recognition, etc.

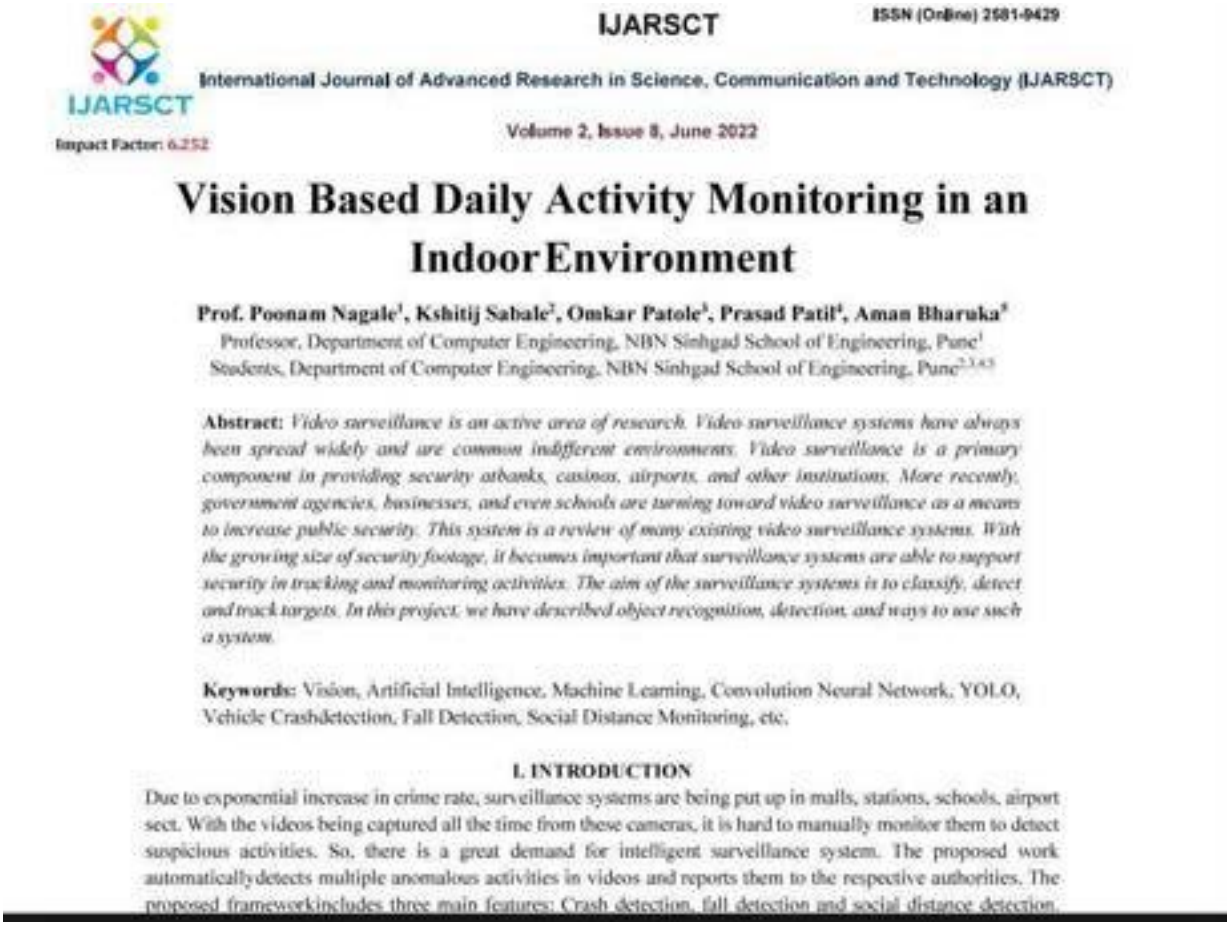
I. INTRODUCTION

With the widespread use of web apps, the need for web application development has skyrocketed in recent years. Online application development has the advantage of allowing new developers with innovative ideas to form teams and create web applications. Vulnerabilities happen as a result of a platform fault or a lack of experience among web developers. Because of the widespread vulnerabilities found in web applications, web application.

II. SECURITY

Security has become a big concern. Attackers have an endless supply of vulnerabilities and payloads to exploit in order to obtain unauthorised access to various web apps. Every time a modification is made to a layer of web application architecture, there is a potential that new vulnerabilities will emerge.
Inexperienced web developers who aren't familiar with secure code principles create applications that are highly vulnerable to attack. When these apps are released without sufficient security testing, they become a tempting

27.Vision Based Daily Activity Monitoring in an Indoor Environment by Prof. Poonam Nagale, Kshitij Sabale, Omkar Patole, Prasad Patil, Aman Bharuka



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Vision Based Daily Activity Monitoring in an Indoor Environment

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Students, Department of Computer Engineering, NBN Sinhgad School of Engineering, Pune[2,3,4,5]

Abstract: *Video surveillance is an active area of research. Video surveillance systems have always been spread widely and are common indifferent environments. Video surveillance is a primary component in providing security atbanks, casinos, airports, and other institutions. More recently, government agencies, businesses, and even schools are turning toward video surveillance as a means to increase public security. This system is a review of many existing video surveillance systems. With the growing size of security footage, it becomes important that surveillance systems are able to support security in tracking and monitoring activities. The aim of the surveillance systems is to classify, detect and track targets. In this project, we have described object recognition, detection, and ways to use such a system.*

Keywords: Vision, Artificial Intelligence, Machine Learning, Convolution Neural Network, YOLO, Vehicle Crashdetection, Fall Detection, Social Distance Monitoring, etc.

I. INTRODUCTION

Due to exponential increase in crime rate, surveillance systems are being put up in malls, stations, schools, airport sect. With the videos being captured all the time from these cameras, it is hard to manually monitor them to detect suspicious activities. So, there is a great demand for intelligent surveillance system. The proposed work automatically detects multiple anomalous activities in videos and reports them to the respective authorities. The proposed frameworkincludes three main features: Crash detection, fall detection and social distance detection.

28.Internet-based Smart Agricultural Product Distribution System by Shailesh Bendale, Gaurav Nehete, Shubham Dawkhar, Pratiksha Bansode, Satyam Lohomi

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Internet-based Smart Agricultural Product Distribution System

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Head, Department of Computer Engineering, NBN Sinhgad Technical Institute Campus, Pune[1]
Student, Department of Computer Engineering, NBN Sinhgad Technical Institute Campus, Pune[2,3,4,5]

Abstract: *E-Agriculture is a platform for farmers to promote their products. All farmers who want a specific value for their agricultural products, as well as end customers who require precise pricing for each product, will benefit from this. This would help them improve their daily lives while also aiding those in need by giving meals. Various government-based non-governmental organizations (NGOs) collaborate with them to reach out to people who have surplus food (that they previously squandered) and can share eatable food with the NGO to address their basic requirements while also preventing food waste. The system's purpose is to build a community where all intermediaries are removed and the estimated value of agricultural products is sold directly to farmers. Finally, we provide leftovers to underprivileged individuals through a non-profit organization. As a result, this strategy can increase end-user product confidence while also developing consumer-producer trust. The remaining food is distributed to the less fortunate, NGOs, and wastage extra food is used for various purposes.*

Keywords: E-Agriculture, Non-profit Organization, Wastage/ Extra Food, Community, etc.

I. INTRODUCTION

India is predominantly an agricultural country, with farming employing the majority of the population. Despite the fact that we require food as a primary need, which all overcomes from farm and farmer's headwork, and despite the fact that there is nothing useful for their betterment in today's state, the sad truth is that Indian farmers are the

29.Securing ATM Transaction with OTP and Facial Recognition Features by Rutuja Naval, Ankita Khot, Samruddhi Khedekar, Manjushree Sangale

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Securing ATM Transaction with OTP and Facial Recognition Features

Rutuja Naval[1], Ankita Khot[2], Samruddhi Khedekar[3], Manjushree Sangale[4]
B.E. Student, Department of Computer Engineering, NBN Sinhgad School of Engineering, Ambegoan, Pune[1,2,3,4]

Abstract: *To avoid the ATM robberies and wrong person misuse the ATM in order that we will make them to the lead their life safely and securely. The proposed system is meant supported the intelligence system to make sure that the ATM usage with none hesitation and make the planet to be a component of digitization. Once customer inserts the cardboard into the ATM, then a session is started, the system starts face detection using the camera installed in the ATM and create a short-lived identity database for the customer and user face verification is performed on the ATM. Valid user would continue the conventional process but the Invalid user cannot be accessing the ATM card so that they give the secondary password to the system automatically therefore the unauthorized person would continue the transaction.*

Keywords: ATM, Security, Fraud, Face Recognition, LRR, OTP, etc.

I. INTRODUCTION

The present ATM security authentication technique it is dependent on the pin-based verification. Factors such urgency, memorization of pins, speed of the interaction, unintentional pin sharing effects of the system diversely. Cards with magnetic chips is easy to clone. The security and vulnerability are the opposite sides of the same coin, an automated machine becomes vulnerable due to a weakness of its security. Automated teller machine manufactures go on adding and strengthening security features of Automated teller machine so that customer can carry banking transactions without any difficulty and fear of siphoning of amount from their account and the same frauds works with similar speed to crack the innovated security feature so that they can have access over the Automated teller machine to exploit the accounts of bank customers.

In order to provide an authentic security solution to the people, the concept of ATM security. system based on face verification is emerged. The Project work is a basically focused on Design and Implementation of face verification-based ATM Security System using LRR algorithm. Limitations of a existing system are overcome in

30.Smart Road Damage Detection and Warning using Machine Learning by Lokesh Thakare, Pallavi Thorat, Kanchan Borwake, Prof. Sagar Mane

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Smart Road Damage Detection and Warning using Machine Learning

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Students, Department of Computer Engineering, NBN Sinhgad School of Engineering Pune[1,2,3]
Faculty, Department of Computer Engineering, NBN Sinhgad School of Engineering Pune[4]

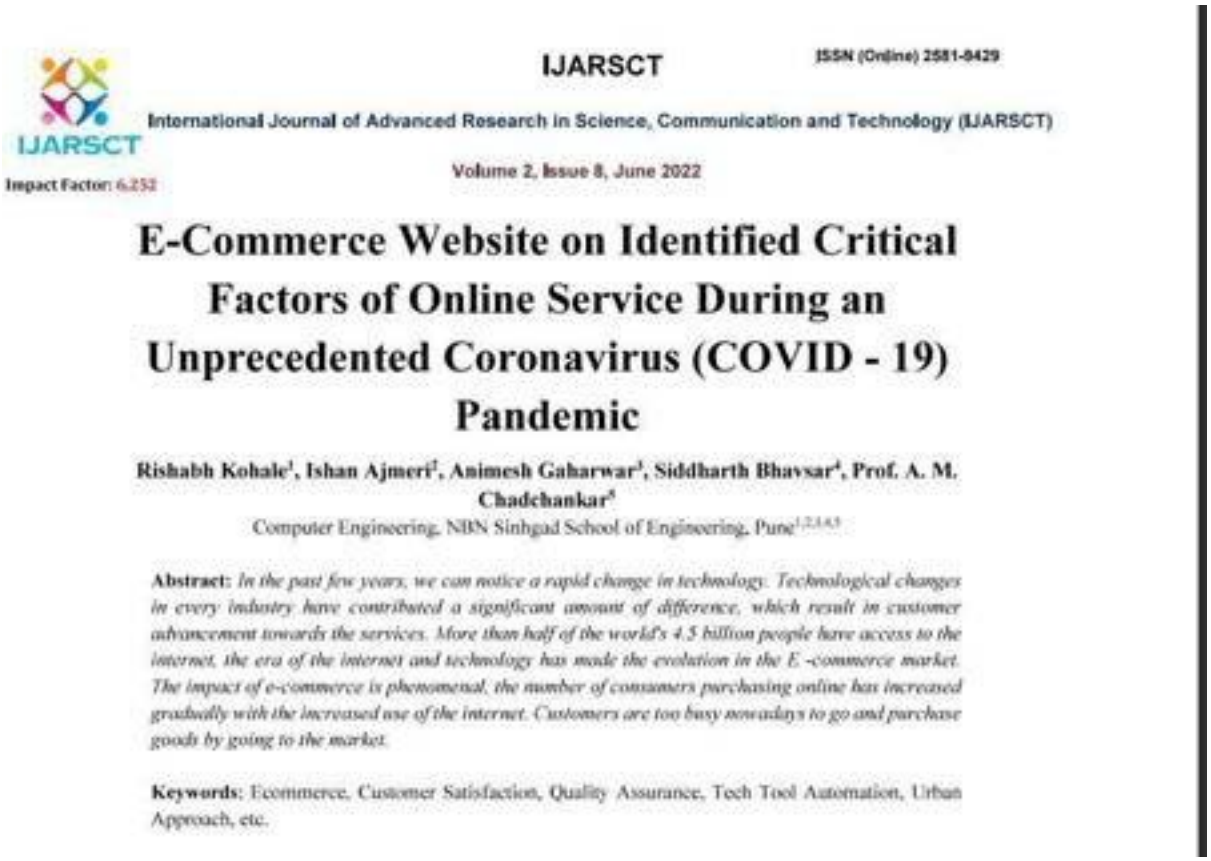
Abstract: *We present a neural network topology, as well as training and prediction algorithms, in this research. To create a safe road environment, we present a deep neural network technique to detect road surface deterioration conditions. For training and testing, we provide an image dataset as input. Various sorts of road anxiety are depicted in the photographs. The suggested approach is compared to a variety of deep learning models from different disciplines. The findings of this study are expected to play a significant role in guaranteeing safe driving in the future by effectively detecting poor road conditions.*

Keywords: Road Damage Detection, etc.

I. INTRODUCTION

All countries' ROAD transportation networks are critical social and economic components. They are, however, collapsing all over the world, sometimes fatally, because to ageing, a lack of routine maintenance, or natural calamities. As a result of the poor road conditions, huge financial losses have occurred, as well as concerns about safety. According to the World Health Organization, vehicle accidents cause millions of injuries each year, with over 300,000 of them being seriously injured, resulting in 1.5 percent to 3% of global economic losses. Poor road conditions are a common cause of car accidents. Despite this, due to the massive road network volume and active real-world surroundings, monitoring road conditions is tough. The majority of the present road damage monitoring

31. E-Commerce Website on Identified Critical Factors of Online Service during an Unprecedented Coronavirus (COVID - 19) Pandemic by Rishabh Kohale, Ishan Ajmeri, Animesh Gaharwar, Siddharth Bhavsar, Prof. A. M. Chadchankar



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E-Commerce Website on Identified Critical Factors of Online Service During an Unprecedented Coronavirus (COVID - 19) Pandemic

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Computer Engineering, NBN Sinhgad School of Engineering, Pune[1,2,3,4,5]

Abstract: *In the past few years, we can notice a rapid change in technology. Technological changes in every industry have contributed a significant amount of difference, which result in customer advancement towards the services. More than half of the world's 4.5 billion people have access to the internet, the era of the internet and technology has made the evolution in the E -commerce market. The impact of e-commerce is phenomenal, the number of consumers purchasing online has increased gradually with the increased use of the internet. Customers are too busy nowadays to go and purchase goods by going to the market.*

Keywords: Ecommerce, Customer Satisfaction, Quality Assurance, Tech Tool Automation, Urban Approach, etc.

32.Traffic Light Violation Detection & Speed Radar by Hiran Shah, Kartik Srinivasan, Pranay Rinayat, Garvit Sagotiya, Prof. Aparna Bagde, S.P. Bendale

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Traffic Light Violation Detection & Speed Radar

Hiran Shah[1], Kartik Srinivasan[2], Pranay Rinayat[3], Garvit Sagotiya[4], Prof. Aparna Bagde[5], S.P. Bendale[6]

Department of Computer Science, NBN Sinhgad School of Engineering, Pune[1,2,3,4,5,6]

Abstract: *The purpose of this paper is to understand the implementation of Automation & Machine learning in the domain of traffic management, using tools like YoloV5 & Computer Vision (CV) we aim to detect vehicles; 2 or 4 Wheelers breaking the traffic rules in place.*

Keywords: Traffic, Violation, Detection, etc.

I. INTRODUCTION

To effectively control traffic conditions and solve problems such as traffic congestion and traffic accidents, many developed countries, such as US, Japan, and Germany, have started to develop the Intelligent Transportation System (ITS). ITS is a way to integrate many advanced technologies, such as Car Navigation, Traffic Signal Control Systems, and Automatic Number-plate Recognition (ANPR), to a single transportation management and control system. One of the fundamental building blocks for these technologies is traffic flow identification, i.e., to count the number of passing-by vehicles at a given point. The mainstream methods to count and classify vehicles can be roughly segmented into hardware solutions and software solutions.

Inductive loops and piezoelectric sensors are the two most widely used systems in the ITS hardware solution. Although the hardware solutions have higher accuracy than the software solutions, it cost more to maintain and in pavement destruction.

With the rapid improvement of computer computing performance and the development of image recognition technology in recent years, the software solutions use the technique of image recognition to calculate the vehicle passing through the surveillance screen. After all the vehicles in the video are identified by the trained model, the system needs to find out the relevance of the vehicles which detected in different frames to achieve the purpose of vehicle counting. Although using the tracking algorithm to process the coordinates of the detected vehicle in each frame can achieve the purpose of vehicle counting, recognition failure in a short period of time may cause a wrong tracking. It will lead to a bad performance of traffic counting.

33.Bank Loan Approval Prediction System Using Support Vector Machine and Random Forest Algorithm by Jayan Kokru, Abhijeet Shrikant Ghodke, Prathamesh Chavan, Sidharth Chand, Prof. Sagar Mane

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Bank Loan Approval Prediction SystemUsing Support Vector Machine and Random Forest Algorithm

Jayan Kokru[1], Abhijeet Shrikant Ghodke[2], Prathamesh Chavan[3], Sidharth Chand[4], Prof. Sagar Mane[5]

Students, Department of Computer Engineering, NBN Sinhgad School of Engineering, Pune[1,2,3,4]
Faculty, Department of Computer Engineering, NBN Sinhgad School of Engineering, Pune[5]

Abstract: *Bank Loan endorsement is a vital cycle for banking associations. This framework endorses or rejects the credit applications. Reimbursement of credit is a significant contributing boundary in the fiscal reports of a bank. It is truly challenging to foresee the chances of reimbursement of credit by the client. Lately numerous analysts chipped away at credit endorsement forecast frameworks. In the System Machine Learning (ML) techniques are extremely helpful in foreseeing results for enormous measure of information. In this paper two AI calculations-Support Vector Machine (SVM) and Random Forest (RF) are applied to anticipate the advance endorsement of clients.*

Keywords: Loan, Machine Learning, Training, Testing, Prediction, etc.

I. INTRODUCTION

Dispersion of the credits is the central business part of pretty much every bank. The principal segment of the bank's resources is evidently the benefit acquired from the advances conveyed at the banks. The main goal in financial climate is to contribute their resources in safe hands. Today many banks/monetary organizations support credit after a relapse interaction of check and approval yet at the same time there is no guarantee whether the picked candidate is the correct candidate among all the candidates. Through this framework it can be foreseen whether that specific candidate is protected. Furthermore, the entire course of approval of elements is robotized by AI Strategy. The hindrance of this model is that it underscores various loads to each factor however, actually, at some point the credit can be endorsed based on single solid element just, which is absurd through this framework. Credit Prediction is very accommodating for bank workers as well as the concerned

34.Application for Real Time Object Measurement by Akash Rane, Isha Jagtap, Shrvya Mapari, Prof. M. B. Yelpale

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Application For Real Time Object Measurement

Akash Rane[1], Isha Jagtap[2], Shrvya Mapari[3], Prof. M. B. Yelpale[4]
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Guide, Department of Computer Engineering, NBN Sinhgad School of Engineering, Pune[4]

Abstract: *As we are moving forward into high tech world, there is change in the traditional method which we use. To measure the dimensions of an object we traditionally use scale or any other measuring gadgets. Its time-consuming job as well as there are high chances of human error. Hence, we are implementing this project to remove these drawbacks and measure the object in real time without human intervention. This will give us less error and more accuracy. we have used a simple algo to implement this project as well as a web cam which is a one-time investment. Also, we have used technologies like NumPy, OpenCV, etc.*

Keywords: OpenCV, Image Segmentation, Edge Detection, Thresholding, Aruko Marker, etc.

I. INTRODUCTION

Since the development of AI and IOT in the field of industrialisation we are keener on mechanization and quick working. Real time object measurement states that we get the measurements of the object on screen as we are watching the image in real time. Recognition of the object and its edges assumes a significant part in detecting the object. Edge Detection is the significant stage in image processing and handling, Computer vision etc. There are quite a large number of techniques to distinguish an object and its edges. Edge Detection, which is the main field in the field of Computer vision, is an approach to handle an image to decide the boundaries of an object. In this project we are making use of one of the methods which we have used to identify an object and to take its estimation in a metric unit framework. We used thresholding technique which is used for exact edge recognition of the object. One of the main advantages of this methodology is that, it will reduce our job and hassle of measuring the object accurately. You simply use a webcam to know the measurements of object in a matter of seconds. All you have to do is place your object on white paper along with aruko marker.

35.Efficient MRI Segmentation and Detection of Brain Tumor using CNN by Danish Tamboli, Yahya Nahaliwala, Aakash Aundhkar, Nishikant Dubey, Dr. Shailesh Bendale

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Efficient MRI Segmentation and Detection of Brain Tumor using CNN

Danish Tamboli[1], Yahya Nahaliwala[2], Aakash Aundhkar[3], Nishikant Dubey[4], Dr. Shailesh Bendale[5]
Computer Engineering, NBN Sinhgad School of Engineering, Pune[1,2,3,4,5]

Abstract: *Intracranial tumors are a form of cancer that develops on its own inside the skull. One in every four fatalities are caused by a brain tumor. As a result, early diagnosis of the tumor is critical. A multitude of segmentation approaches is available to achieve this goal. The primary drawback of current techniques is their low segmentation accuracy. A preventative medical step of early diagnosis and assessment of a brain tumor is done with the aid of magnetic resonance imaging (MRI). Magnetic resonance imaging (MRI) provides precise information about human delicate tissue, which assists in brain tumor identification.*

Keywords: Segmentation, Brain Tumor, Convolutional Neural Network, Deep Learning, etc.

I. INTRODUCTION

Generating pictorial representations of the inside of a human being for medical assessment and to form an idea as to how the activities happen about the organs and tissues is known as clinical imaging. In order to aid the industry to diagnose and treat the diseases, clinical imaging helps undermine internal structures below the skin. It is now possible to figure out the abnormalities because clinical imaging helps develop a database of the whole anatomy. The use of a computer to modify images is referred to as "medical imaging processing." This processing encompasses a number of procedures and techniques such as picture capture, data storage, display, and

36. Privacy-Preserving Media Sharing with Scalable Access Control and Secure Deduplication in Cloud Computing by Atharv Birari, Saurabh Bhave, Pravin Jadhav, Rohit Godse, Sonali Sethi

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Privacy-Preserving Media Sharing with Scalable Access Control and Secure Deduplication in Cloud Computing

Atharv Birari[1], Saurabh Bhave[2], Pravin Jadhav[3], Rohit Godse[4], Sonali Sethi[5]
Department of Computer Engineering, NBN Sinhgad School of Engineering, Pune[1,2,3,4,5]

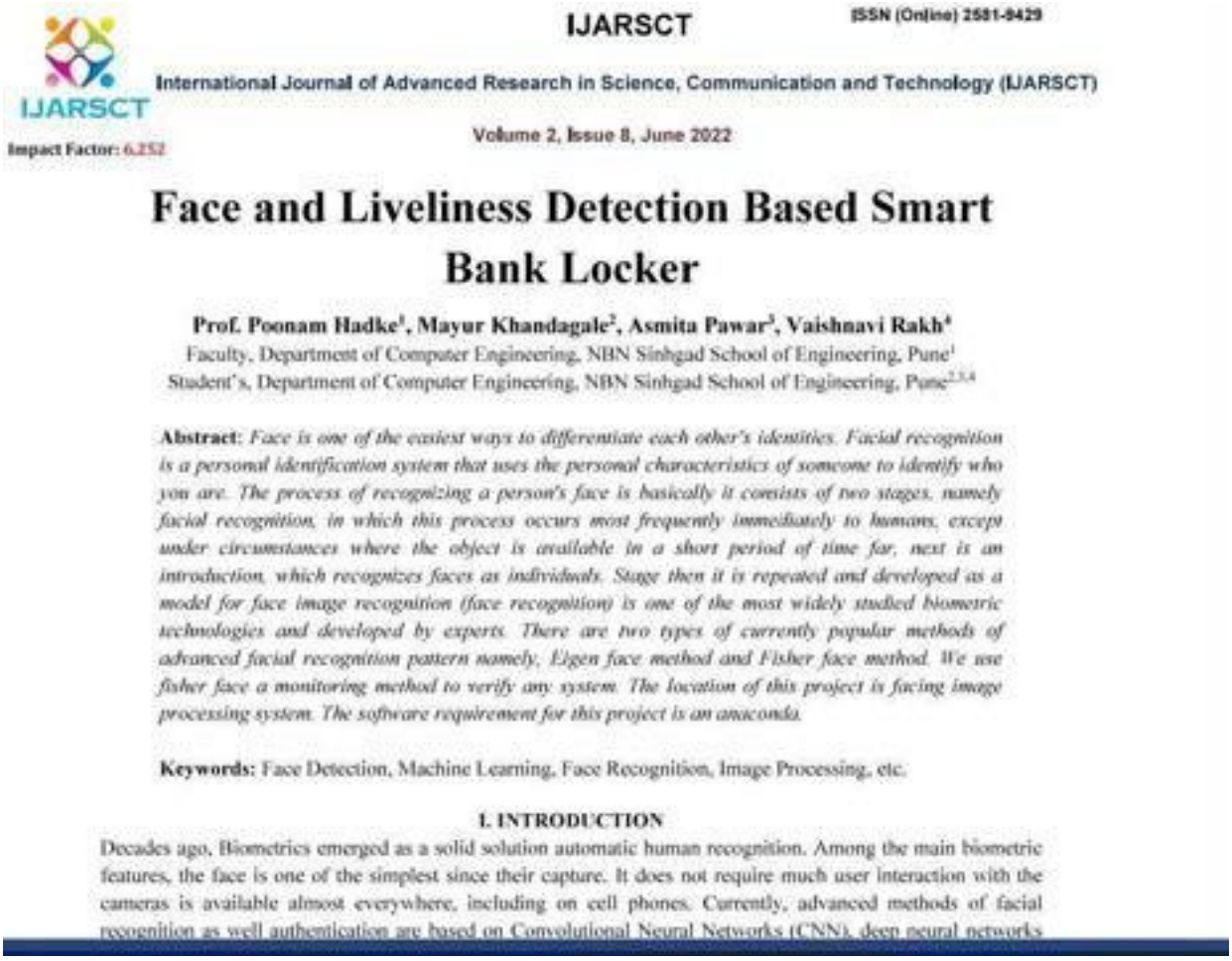
Abstract: *To save cloud storage, secure drop-down algorithms have been developed. To get started, we will go through the AES encryption algorithm, which encrypts messages using a message-based key. As a result, the same clear texts produce the same ciphertexts. AES, which incorporates flexible encryption and provides accurate security definitions, was proposed. Cloud computing is the development of sharing large amounts of data over a network. There are many ways to provide data security in the cloud. Current methods, on the other hand, are closely related to ciphertext. Therefore, in this paper, we propose cloud-based information collection, sharing, and a limited distribution system that maintains the privacy of many owners. Here, the data owner can safely share confidential information with a group of customers using the cloud.*

Keywords: Safe Deduplication Algorithms, etc.

I. INTRODUCTION

It is a network-based computer system with a large storage area where authorised users can access the platform from anywhere and at any time using good internet or network connectivity. Secure deduplication solutions have been proposed to preserve cloud storage space due to the increasing development of media content. First, the AES encryption system was established, which uses a message-derived key in order to encrypt the message as a result, identical plaintexts generate similar ciphertexts. AES was proposed, which

37.Face and Liveliness Detection Based Smart Bank Locker by Prof. Poonam Hadke, Mayur Khandagale, Asmita Pawar, Vaishnavi Rakh



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Face and Liveliness Detection Based Smart Bank Locker

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Student's, Department of Computer Engineering, NBN Sinhgad School of Engineering, Pune[2,3,4]

Abstract: *Face is one of the easiest ways to differentiate each other's identities. Facial recognition is a personal identification system that uses the personal characteristics of someone to identify who you are. The process of recognizing a person's face is basically it consists of two stages, namely facial recognition, in which this process occurs most frequently immediately to humans, except under circumstances where the object is available in a short period of time far, next is an introduction, which recognizes faces as individuals. Stage then it is repeated and developed as a model for face image recognition (face recognition) is one of the most widely studied biometric technologies and developed by experts. There are two types of currently popular methods of advanced facial recognition pattern namely, Eigen face method and Fisher face method. We use fisher face a monitoring method to verify any system. The location of this project is facing image processing system. The software requirement for this project is an anaconda.*

Keywords: Face Detection, Machine Learning, Face Recognition, Image Processing, etc.

I. INTRODUCTION

Decades ago, Biometrics emerged as a solid solution automatic human recognition. Among the main biometric features, the face is one of the simplest since their capture. It does not require much user interaction with the cameras is available almost everywhere, including on cell phones. Currently, advanced methods of facial recognition as well authentication are based on Convolutional Neural Networks (CNN), deep neural networks

38.Diabetics Prediction System Using Machine Learning by Darshan Vaijanath Khatal, Ganseh Dinkarrao Kulkarni, Shraddha Satish Kshatriya, Prasad Bharat Jadhav

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Diabetics Prediction System UsingMachine Learning

Darshan Vaijanath Khatal[1], Ganseh Dinkarrao Kulkarni[2], Shraddha Satish Kshatriya[3],Prasad Bharat Jadhav[4]

NBN Sinhgad School of Engineering, Pune, Maharashtra, India[1,2,3,4]

Abstract: *Diabetes is a serious disease that can strike at any time and affect many people. Age, obesity, sedentary lifestyle, poor diet, and high blood pressure are just a few of factors that contribute to the development of type 2 diabetes. There is the number of health problems that are more common in people with diabetes than usual population. Patients with diabetes are currently being diagnosed and treated using a variety of diagnostic methods, including blood testing, urine tests, and more. In the healthcare industry, big data analytics is essential. The healthcare industry has a tremendous amount of value data stored on a website. By using large amounts of data, users can gain understanding and practice prediction ns about the future by exploring big data sets and hidden disclosures knowledge and styles. The current method is not very good at classifying and forecasting. To better classify diabetes, we present a diabetes prediction model in this article that incorporates a few extrinsic parameters that cause diabetes, as well as regular components such as glucose, creatinine ratio, urea, fasting lipid profile, body mass index, age, insulin, and so on. Both datasets, each with eight variables, were subjected to the identical tests. The accuracy of a dataset with 12 variables is higher, so the conclusion is that the more information we have, the more accuracy we can attain.*

39 Diabetics Prediction System Using Machine Learning by Prof. Santosh Kale, Darshan Vaijanath Khatal, Ganseh Dinkarrao Kulkarni, Shraddha Satish Kshatriya, Prasad Bharat Jadhav

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NBN Sinhgad School of Engineering, Pune, Maharashtra, India[1,2,3,4]

Abstract: *Diabetes is a serious disease that can strike at any time and affect many people. Age, obesity, sedentary lifestyle, poor diet, and high blood pressure are just a few of factors that contribute to the development of type 2 diabetes. There is the number of health problems that are more common in people with diabetes than usual population. Patients with diabetes are currently being diagnosed and treated using a variety of diagnostic methods, including blood testing, urine tests, and more. In the healthcare industry, big data analytics is essential. The healthcare industry has a tremendous amount of value data stored on a website. By using large amounts of data, users can gain understanding and practice prediction ns about the future by exploring big data sets and hidden disclosures knowledge and styles. The current method is not very good at classifying and forecasting. To better classify diabetes, we present a diabetes prediction model in this article that incorporates a few extrinsic parameters that cause diabetes, as well as regular components such as glucose, creatinine ratio, urea, fasting lipid profile, body mass index, age, insulin, and so on. Both datasets, each with eight variables, were subjected to the identical tests. The accuracy of a dataset with 12 variables is higher, so the conclusion is that the more information we have, the more accuracy we can attain.*

40.Axis Delta Robot Using HMI & Mapp Robotics for Pick and Place by Rohit R. Mali, Omkar D. Karpe, Aniket N. Gonjare, Pratiksha A. Shinde, N. R. Dagade

Axis Delta Robot Using HMI & Mapp Robotics for Pickand Place

Rohit R. Mali[1], Omkar D. Karpe[2], Aniket N. Gonjare[3], Pratiksha A. Shinde[4], N. R. Dagade[5]
Departmentof Electrical Engineering, NBN Sinhgad School of Engineering, Pune, India[1,2,3,4,5]

Abstract: *In this project, this project going to make a machine centric robot which will be controlled for a certain process using MappRobotics and HMI screen will be developed for the robot. This 4-axis robot is controlled for the desired application. It has 3 drives connected to 6 motors, by controlling the drives and motors, a synchronized motion of the manipulator is performed which results in a robotic application, for example the manipulator of the robotic arm will trace 'B&R'. Operator can control the robot automatically and manually by giving commands through HMI as well. This robot will perform tasks on the basic of structure text (type of CNC programming) written on the program.*

Keywords: Robotic Arm, Mapp Robotics, HMI, Structure Text Programming, Scene Viewer, Automation Studio, Communication, 4-Axis, VNC Viewer, PLC, etc.

I. INTRODUCTION

The aim of this project is to offer unprecedented levels of machine flexibility and precision by merging robotics with machine control enabling remote access, increased efficiency and also save floor space. Robots are an integral part of automation industry. Traditionally, robots used in machines are self-contained, with their independent controller and its control cabinet. The configuration, diagnostics and maintenance of robot are all performed using a dedicated system, with a specific robotic language. These robots have to be coordinated with the machines so that they can give the required output.

This system requires dedicated controller for each machine and robot. Therefore, machine centric robot is required which has only one controller. As this robot will no longerrequire a dedicated controller, all interfaces between the machine and the robot are eliminated, while the fact that all axes and sensors will now communicate on a common network increases precision and speed of response. Thisalso helps to increase the productivity of the machine and the output of the process.

41.E-Auction: Recommendation System for Farmers using Machine Learning by Avinash Bhat, Ahmed Morve, Mahesh Dhokate, Ayush Dhar, Prof. Wasudeo Rahane

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E-Auction: Recommendation System for Farmers using Machine Learning

Avinash Bhat[1], Ahmed Morve[2], Mahesh Dhokate[3], Ayush Dhar[4], Prof. Wasudeo Rahane[5]

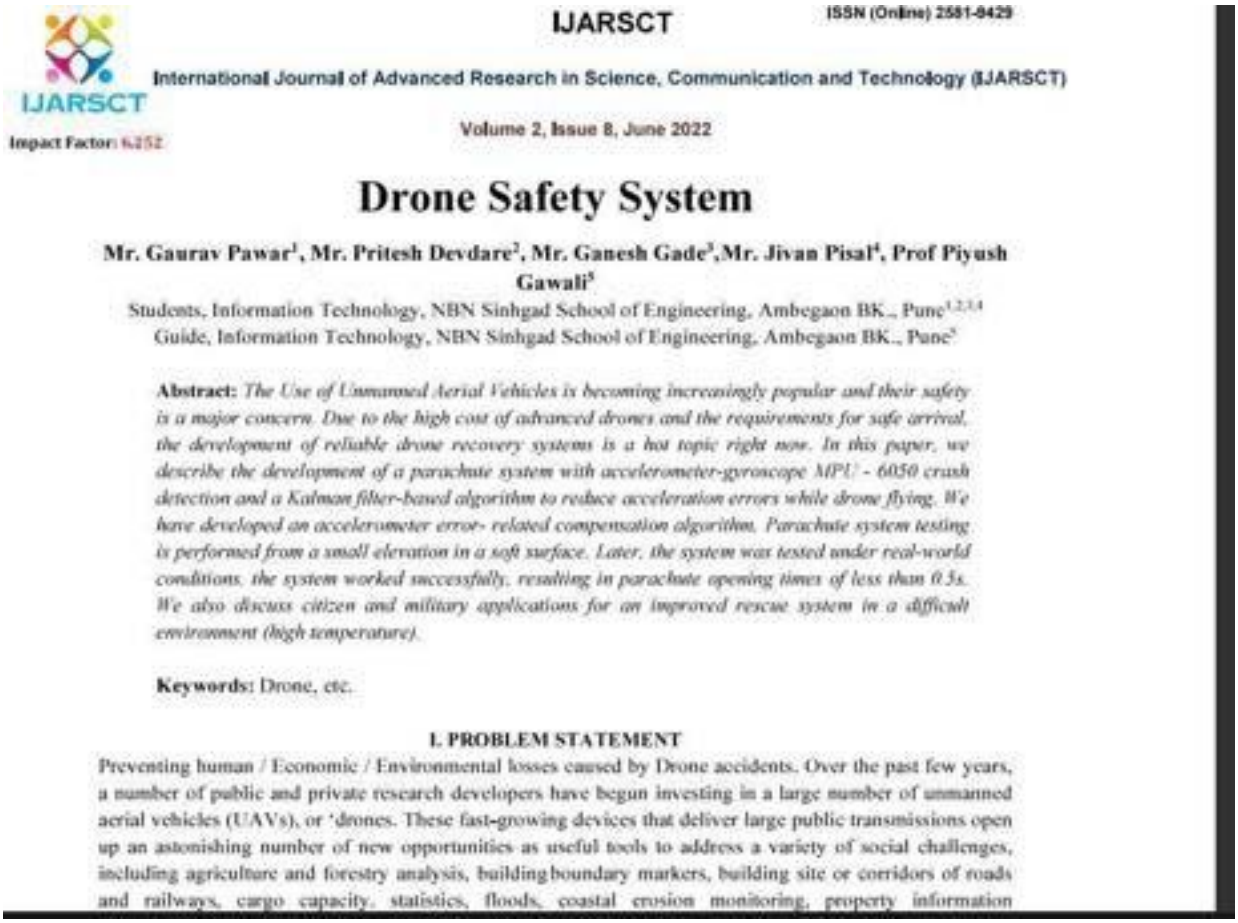
Students, Information Technology, NBN Sinhgad School of Engineering, Ambegaon BK., Pune[1,2,3,4]

Guide, Information Technology, NBN Sinhgad School of Engineering, Ambegaon BK., Pune[5]

Abstract: *A major contribution to our country's GDP is agriculture. However, farmers have not yet received the required number of crops. This is largely due to improper irrigation or crop selection or sometimes because yields are lower than expected. The best crops that will have the highest yields and crop residues can be predicted by analyzing the soil and atmosphere in a particular area. This forecast will help growers to choose the right crop based on soil type, temperature, and humidity, water level, depth, soil pH, season, fertilizer and months. And our contribution applies to fertilizer recommendations, sale of goods and agricultural equipment to be rented. And to remove the third person between the farmers and the consumers in order to get a direct profit from the farmers. Program E: Auctions and Recommendations aims to eliminate the problems that appear in the manual auction system. The results obtained in subsequent tests were very impressive in terms of time, as well as benefits for farmers compared to the manual system. Such a system with all of these skills will go a long way in fixing the problems mentioned above with the existing manual voting system at auction.*

Keywords: Agriculture, Crop Soil, E-auction, Prediction, Machine Learning, etc.

42.Drone Safety System by Mr. Gaurav Pawar, Mr. Pritesh Devdare, Mr. Ganesh Gade, Mr. Jivan Pisal, Prof Piyush Gawali



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Drone Safety System

Mr. Gaurav Pawar[1], Mr. Pritesh Devdare[2], Mr. Ganesh Gade[3],Mr. Jivan Pisal[4], Prof Piyush Gawali[5]

Students, Information Technology, NBN Sinhgad School of Engineering, Ambegaon BK., Pune[1,2,3,4]

Guide, Information Technology, NBN Sinhgad School of Engineering, Ambegaon BK., Pune[5]

Abstract: *The Use of Unmanned Aerial Vehicles is becoming increasingly popular and their safety is a major concern. Due to the high cost of advanced drones and the requirements for safe arrival, the development of reliable drone recovery systems is a hot topic right now. In this paper, we describe the development of a parachute system with accelerometer-gyroscope MPU - 6050 crash detection and a Kalman filter-based algorithm to reduce acceleration errors while drone flying. We have developed an accelerometer error- related compensation algorithm. Parachute system testing is performed from a small elevation in a soft surface. Later, the system was tested under real-world conditions, the system worked successfully, resulting in parachute opening times of less than 0.3s. We also discuss citizen and military applications for an improved rescue system in a difficult environment (high temperature).*

Keywords: Drone, etc.

I. PROBLEM STATEMENT

Preventing human / Economic / Environmental losses caused by Drone accidents. Over the past few years, a number of public and private research developers have begun investing in a large number of unmanned aerial vehicles (UAVs), or 'drones. These fast-growing devices that deliver large public transmissions open up an astonishing number of new opportunities as useful tools to address a variety of social challenges, including agriculture and forestry analysis, building boundary markers, building site or corridors of roads and railways, cargo capacity, statistics, floods, coastal erosion monitoring, property information

43.AI-Assisted Prediction on Potential Health Risks by Ritika Rawat, Nikhil Khatale, Anuja Shinde, Ulkesh Patil, Prof. P. P. Gawali

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AI-Assisted Prediction on Potential Health Risks

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Abstract: *Mining and Machine Learning plays most motivating space of exploration that become generally well known in wellbeing association. It likewise has a crucial impact to reveal new examples in therapeutic science and administrations affiliation which subsequently obliging for every one of the gatherings related with this field. This undertaking expects to frame a symptomatic model of the normal sicknesses dependent on the manifestations by utilizing information mining method like arrangement in wellbeing space. In this paper, we will utilize AI calculations and profound realizing which can be used for health care diagnosis. In this paper we are proposing the disease identification using symptoms and images of malaria cells. Chest x-ray images of covid and pneumonia disease using CNN algorithm and we get the accuracy 89.45% at 50 epochs. Accordingly, we are recommending the precautions and hospital to the patient. This system also creates and take appointment which is helpful for doctor and patient.*

Keywords: CNN Algorithm, SVM, KNN, etc.

I. INTRODUCTION

Human is master in getting data, while machine is master at communicating and handling information. In this paper, we propose a model for patient side effect closeness examination by exploiting the machine's capacity to process information. The model utilized patient's portrayals of indications to remove key data and accomplish early expectation and mediation. Consequently, the precision of likeness examination model to a great extent decides the adequacy of infection expectation. Accurately predicting diseases plays a significant role in public health, especially at the early stage which allows patients to take prevention treatments in time. With the growing volume and availability of electronic health records (EHRs), predictive modeling tasks for disease progression and analysis have obtained increasing interest from researchers.

The EHR data are temporally sequenced by patient visits with each visit represented as a set of high dimensional clinical events. Mining EHRs is especially challenging compared to standard data mining tasks, due to its noisy,

44.Forged News Identification using SVM by Prof. Piyush Gawali, Gayatri More, Chaitanya Tadse, Harshada Mahajan, Raksha Patil

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Forged News Identification using SVM

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Students, Information Technology, NBN Sinhgad School of Engineering, Ambegaon BK., Pune[2,3,4,5]

Abstract: *Papers are the essential wellspring of information for individuals around the world. Nonetheless, off late, because of the critical development and updates in innorations, there has been a staggering ascend in the fame of web-based entertainment. The quantity of individuals who utilize social media has expanded surprisingly. As an outcome, informal organizations like social media, sites, web journals, and so forth have arisen as significant stages to accumulate various types of information. Individuals depend more on informal organizations than papers nowadays. With the accessibility of the web, these organizations can be gotten to without any problem. This can prompt simple control of the current news, in this manner causing counterfeit news. Counterfeit news can be utilized as a fundamental apparatus to extend individuals in an incorrect manner. It can spread disdain among individuals which can additionally hurt the general public. Consequently, it is extremely important to forestall the spread of phony news. The proposed depicts the different methods from SVM and model prepared utilizing SVM utilized for the discovery of phony news. Our venture expects to use SVM Techniques to straightforwardly recognize counterfeit news, in light of the text content of information article.*

Keywords: Fake news, Fake news Detection, Machine Learning, Dataset, etc.

I. INTRODUCTION

As a rising measure of our lives is spent connecting on the web through online entertainment stages, an ever-increasing number of individuals will generally chase out and consume news from social media rather than customary news associations. The clarifications for this adjustment in utilization ways of behaving are inborn

45.Voice Encryption and decryption using AES Algorithm by Manthan Patil, Ankita Mohokar, Supriya Gorkha, Rinku Yadav, Prof. W. P. Rahane

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Voice Encryption and decryption using AES Algorithm

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Abstract: *Cryptography assumes a vital job in security of information transmission. The improvement of registering innovation forces more grounded necessities on the cryptography plans. In 2000, the Advanced Encryption Standard (AES) supplanted the DES to conquer the expanding prerequisites for security. In cryptography, the AES, likewise called as Rijndael, is a square figure that is received as an encryption standard by the USA government, which determines an encryption calculation fit for securing private and touchy data. This calculation is a symmetric square figure that can encode and unscramble the data.*

Keywords: AES Algorithm, Cryptography, Encode and Unscramble the Data, etc.

I. INTRODUCTION

It is a research-based project about implementation of Voice Encryption and decryption using AES Algorithm. Encryption is an efficient method for protection of speech communications. Voice Encrypt or digitize the conversation at transmitter end and apply a cryptographic technique to the resulting bit-stream. In order to decipher the speech correct encryption scheme must be used. Voice Encryption helps us in private and confidential manner. It is nearly impossible to decrypt voice into its original form again. We will compare the efficiency and performance of standardized C/C++ implementations and open-source Verilog codes with ours and compare the results.

46.Face Mask Detection using Deep Learning by Om Mojad, Shubham Basule, Shashank Joshi, Pawan Mane

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Face Mask Detection using Deep Learning

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Abstract: *Latterly the widespread outbreak of the Coronavirus (COVID-19) has brought Global crisis with its deadly spread and has put the world to a halt. During this pandemic situation, World Health Organization (WHO)has made masks and social distancing compulsory to protect against the deadly virus. These are the necessities of today's world we lived in a few months prior is completely different than what it is now. Our project mainly focuses on detecting if the people around are wearing masks or not. Due to hardware restrictions, we used video analytics for monitoring people.*

Keywords: Coronavirus, etc.

I. INTRODUCTION

COVID-19 comes under the umbrella of diseases caused due to corona virus. This specific virus was first detected in Wuhan, China in 2019 in the month of December. As of now the deadly virus has infected more than 85 million people worldwide and more than 1.83 million have succumbed to death against it. A cure or vaccine for it is yet to be found properly so till then the only option left for the people is to keep themselves safe and healthy away from this virus by practicing wearing masks and following social distancing each and everywhere. Even after the vaccine is invented and supplied to people these two practices will still demand highest priority. So, in this paper we present to you an face-mask detection algorithm which when incorporated will detect and warn against the violations of these practices at any place. These systems will be highly efficient and important in crowded indoor premises of any sorts or out in densely populated public places.

II. RELATED WORK

This section highlights some of the related works about human detection using deep learning and mask detection. A bulk of recent works on object classification and detection involving Deep learning. The state-of-the-art review mainly focuseson the current research works on object detection using machine learning. Human detection can be considered as an objectdetection in the computer vision task for classification and localization of its shape in video imagery. Deep learning has shown a research trend in multi-class object recognition and detection in artificial intelligence and has achieved outstanding performance on challenging datasets.

Object detection from a image is probably the deepest aspect of computer vision due to being widely used in many cases. There have been two types supervised or unsupervised based learning in the field of computer vision to outfit the work of object detection in an image. Most mask face detection focuses on

47.Hand Gesture Recognition Using Machine Learning with Convolutional Neural Network (CNN) by Shubham A. Sangale, Narayan B. Kirtane, Avinash Madhuri S. Jagtap, R. M. Samant

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Hand Gesture Recognition Using Machine Learning with Convolutional Neural Network (CNN)

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Abstract: *Many deaf and hard-of-hearing people rely heavily on sign languages as a means of communication. Sign languages are the native languages of the Deaf community and provide full access to communication. Despite the fact that it is an effective mode of communication, communicating with speech impaired people remains a barrier for those who do not understand sign language. The purpose of this paper is to create a Web application that will convert hand gesture to English in the form of text, hence facilitating sign language communication. The web application uses the computer's webcam to collect visual data, which is then pre-processed using a combinational method before being recognized via template matching. This project tried different machine learning algorithms including SVM, RNN and CNN (Convolutional Neural Network). With the accuracy of 91% CNN algorithm has proven to be the most accurate classification tool.*

General Terms: Hearing-Impaired People, Computer Vision, Hand Gesture Recognition.

Keywords: Sign Language, ASL, Hearing Disability, Convolutional Neural Network (CNN), Computer Vision, Machine Learning, Gesture Recognition, Sign Language Recognition, etc.

I. INTRODUCTION

All humans engage in activities such as reading books, singing, and playing on a daily basis. Now this project focused on singing, let's talk about deaf or dumb people, those who can't speak or hear. This group of people is known as the disabled community. As a result, we discovered a significant communication gap between the normal and disabled communities.

There is a boy who lives in residency. The boy was unable to express himself due to his disability (deaf& dumb). As a result, communication with him can be challenging at times. His family was also attempting to

48.Hand Gesture Recognition Using Machine Learning with Convolutional Neural Network (CNN) Prathamesh Kunjeer, Madhura Khedkar, Niyukti Wani, Prof W. S. Rahane

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Hand Gesture Recognition Using Machine Learning with Convolutional Neural Network (CNN)

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Abstract: *In this era of technology, the most valued asset can be 'Data'. With the increasing number of data, the value of it keeps increasing. We have started to store and manipulate data to achieve some particular goals or business requirements but with the increasing number of data, storing it has become a complex and tedious task. With the use of some advanced technologies like Hadoop, we simplified the data storing process but due to rapid development and excessive use of AI and ML tons of data is collected. For this, the paper provides us with an effective solution to store data over the cloud with numerous benefits over traditional data storage methods by developing a data lake using AWS. Furthermore, the functionalities of Data Lake include managing and storing sorted as well as unsorted data, gathering various analytics from the data lake as per business requirements.*

Keywords: Data Storage Techniques, Data Lake, AWS Data Storage, AWS Solutions, Amazon S3, etc.

I. INTRODUCTION

To introduce the concept of Data-lake [1] let us understand a following example. Imagine a data lake as a huge virtual cloud storage where 'n' number of users can upload / download data and later use it for processing to extract useful results or conclusions. Talking more about the traditional methods for storing data i.e., data warehouses they work fine until the data is predefined and acute. However, with the modernization in technology and excessive use of Artificial Intelligence and Machine Learning, the number of raw and unfiltered data is increasing [2]. To cope up with this situation data lakes prove to be an easy and efficient means of data storage. Major issues such as frequent data loss, low data quality, high data storage cost is addressed in data lakes. While the data keeps generating, organizations need a way to use their data part from just storing into an effective tool for enhancing their businesses. Data in S3 data lake has a data longevity rate of 99.999999 %,

49 .Road Pothole Detection by Saurabh Hanwate, Akash Patil, Tilak Nirgude, Prof. T. R. Patil

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Road Pothole Detection

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Abstract: *Highways and roads are arguably the most used forms of transportation in our day and age and their safety and condition is very important. While Image Processing for maintenance and detection in the transportation field has gained popularity over the last half-century thanks to development in technological areas, there is still more that we can learn and apply as Image Processing is still not utilized in this field to its fullest. The aim of this study was to explain Image Processing techniques and how it can be utilized in a multitude of scenarios in highway and road maintenance. This study describes Image Processing as a whole and continues with how Image Processing is used in the detection and maintenance of the following: Potholes, Rutting of Asphalt Terrain, Pavement Cracks and Surface Roughness which are hazards when it comes to road and highways. In addition, the effectiveness of these methods is explored and evaluated through research and comparison of the methods at hand, with attention towards accuracy and precision. Results showed promising views on the usage of Image Processing in these fields, as a generally easy and cost-effective way. Results are discussed and compared individually for each part where a different scenario or method is at hand.*

Keywords: Machine Learning, Pathole, CNN, IOT, etc.

I. INTRODUCTION

50.Smart Facial Attendance System by Prof. Piyush Gawali, Atif Khan, Ayush Singh, Tejdarshan Bahadure, Anubhav Oraon

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SMART FACIAL ATTENDANCE SYSTEM

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Abstract: *Managing the attendance in school has proven to be a great burden to teachers and pupils. As of late, automaticattendance systems have been introduced to help solve these issues by creating a more interactive and computerized environment in order to allow teachers to better track the performance of their students. The Open-Source Technology Center (OTC) program is an application that was created using the Qt framework. This program runs on Linux and utilizes the OpenCV library in order to read the faces of students when theyenter the classroom and mark their presence on a control panel interface, which is then also streamed throughа local server through UDP protocol. The system uses MVC architecture, allowing for easy separation between data, models and controllers. The model consisting of face detection is developed using dlib librariesvwhich allows for more advanced modeling.*

Keywords: Attendance System, Automated Attendance, Image Processing, Face Detection, Feature Matching, Face Recognition, etc.

I. INTRODUCTION

Face recognition technology is based on the extraction of facial features such as eyes, nose, ears, etc., and then storing them in an encrypted format. Face recognition works better than other biometric system like finger print, palm-print and iris because of its non-contact process. Facial features are more stable than finger-print or palm-print and provide more uniqueness than iris. Almost all the major companies like Google, Facebook are now implementing face recognition for security purpose. A face recognition methodology is described in this paper that works with real surveillancevideo captured under uncontrolled light conditions and various face poses. The

51.Framework for the Development of a Tumor Cancer Detection System by Meetali, Jayesh Mohite, Parimal Bartakke, Subhasini Priya, Prof. Rahul M Samant

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Framework for the Development of a Tumor Cancer Detection System

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Abstract: *Image Processing plays an important role in various fields such as clinical imaging, surveillance and surgical, etc. The purpose of the system is to build a proposed framework for the development of a tumor cancer detection system, that is, to determine whether a person has harmful or non-harmful tumor growth using Machine Learning Algorithms. The python-based structure was developed using CNN, KNN and SVM for Tumor detection and classification. The Support Vector Machine has been used in the proposed structure which works to reduce the basic risk to image separation. The proposed plan presents a CNN model and SVM-based Image Processing, which separates images and the system can check whether a patient's collected image is malignant or harmless tumor and blurring.*

Keywords: Image processing, Support Vector Machine (SVM), MRI images, Convolutional Neural Network (CNN), K-Nearest Neighbour (KNN), etc.

I. INTRODUCTION

Image processing is a course of separation, controlling the Image to play a specific task to extract data from it. Clinical imaging attempts to reveal internal development hidden by the body unnecessarily and without tearing down and treating disease. And besides that, it sets out a collection of structured human life information and physiology to make it possible to identify species. Nowadays, one specific predictor of mortality is the growth of the frontal cortex. Abnormal or uncontrolled cell development within the human body is called frontal cortex

52.Covid-19 Digital Medical Passport using Blockchain Technology by Aniket Mote, Mrunali Jadhav, Divya Kulkarni, Sneha Jagtap, Prof. Rahul Samant

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Covid-19 Digital Medical Passport using Blockchain Technology

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Abstract: *COVID-19 has emerged as a highly infectious illness that has had a worldwide effect, resulting in a significant number of infections and fatalities. Testing is critical to a successful response to this pandemic because it helps detect illnesses and therefore attenuate (isolate/cure) them. We will look at this issue and contribution in this study by providing a block chain-based solution that includes self-sovereign identity and decentralized storage. For COVID-19 test takers, our solution includes digital medical passports and immunity certificates. We will demonstrate smart contracts based on the block chain and implemented in Python to preserve a digital medical identity for test-takers, allowing for a quick and trustworthy response from the appropriate medical authorities. We will use immutable trustworthy block chain to decrease medical facility response times, relieve the dissemination of incorrect information, and stop the transmission of illness via digital medical passports.*

Keywords: Digital medical passports, Immunity certificates, Block chain, Elliptic Curve Digital Signature Algorithm (ECDSA), etc.

I. INTRODUCTION

The coronavirus (COVID-19) outbreak in late 2019 comprises a serious threat around the world. The severity of the epidemic was so huge that the World Health Organization (WHO) was compelled to declare it as a pandemic within a month of its wide-scale expansion. The virus spread causes the global economic shock with the massive interruptions of many sectors such as supply chain, industry, insurance, agriculture, transport, and tourism, forcing governments and owners to shut stop operations on a worldwide scale. Coronavirus-2019 (COVID-19) has had unprecedented impact on human life across the world. Being highly contagious, this disease has affected a significant proportion of the world population with a very large number of infections and deaths. With stringent countermeasures, such as lockdown adopted by governments across the world, COVID-19 has not only affected human health but has also caused a significant negative impact on the global economy.

53.Controlling 4 Axis Delta Robot Using Mapp Technology &Developing HMI by Vaishnavi Ugemuge, Pratiksha Yenare, Prof. Shahid Tmboli

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Controlling 4 Axis Delta Robot Using Mapp Technology & Developing HMI

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Abstract: *Chapter 1 is an overview of robotics, and its brief history, in which we come to know how it was initialized and who are the pioneers of robotics. Further, on which basis they are classified and at the end of this chapter there are some implemented and future applications of robotics all around the world. A literature review is in Chapter 2 and it is about the mechanics and motions of robotics further, there are brief theories on positioning, orientation, degree of freedom, and geometry involved in robotics. At the end of this chapter, servo motors are discussed in greater depth. Research methodologies are placed in Chapter 3 where design and material selection are the main concern of mechanical design of robotic arm and what sort of hardware selection is carried out which suites best the servo drive.in Chapter 4 these mechanical and electronic hardware selections are implemented along with the best suitable power supply unit and microcontroller. Last but not least Chapter 5 is the summarized version of our achievements, limitations facing in the project, robotics in the future, cost analysis, and conclusion. We mention point-to-point references for every student who wants to ripe this fruit and enhance their curiosity.*

I. INTRODUCTION

Moving 4 axis Robot with predefine sequentially is critical task existing industrial robot are giving same facility with predefine motion pattern ,so our project is helpful to provide runtime input from the user to change the axis pattern using touch screen. That consists of three arms connected to universal joints at the base. The key design feature is the use of parallelograms in the arms, which maintains the orientation of the end effector, by contrast to Stewart platform that can change the orientation of its end effector.

II. BACKGROUND

Moving 4-axis Robot with predefine sequentially is a critical task existing industrial robots are giving the same facility with predefine motion pattern ,so our project is helpful to provide runtime input from the user to change the axis pattern using a touch screen.

54 Controlling 4 Axis Delta Robot Using Mapp Technology & Developing HMI by Onkar Chavan, Anand Mulay, Umarani Suryawanshi

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Controlling 4 Axis Delta Robot Using Mapp Technology & Developing HMI

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Abstract: *The project is an overview of robotics, its brief history, in which we come to know that how it was initialized and who are the pioneers of robotics. Further, on which basis they are classified and at the end of this chapter there are some implemented and future applications of robotics all around the world. Literature review is in and it is about the mechanics and motions of robotics further, there are brief theories on positioning, orientation, degree of freedom and geometry involved in robotics. At the end of this chapter servo motors are discussed in greater depth. Research methodologies are placed, design and material selection are the main concern of mechanical design of robotic arm and what sort of hardware selection is carried out which suites best the servo drive, also learn mechanical and electronic hardware selections are implemented along with the best suitable power supply unit and microcontroller. At the last but not the least is the summarized version of our achievements, limitations facing in project, robotics in future, cost analysis and conclusion. We mention point to point references for every student who want to ripe this fruit and enhance the curiosity. This represents an ideal pick and place robot should carry out the operations in minimum time and should also be cost efficient. One of the fastest configurations of industrial robot used is the Delta configuration. It is three degrees of freedom parallel configuration used for very high-speed pick and place operations capable of achieving high cycle rates up to 200 cycles per minute.*

I. INTRODUCTION

Moving 4 axis the predefine robot in turn is an important function in existing industrial robots that offer the same an area with a predefined movement pattern ,so our project helps to provide performance time input from the user

55.IoT Based Smart Street Lighting System by Prajwal Patil, Abhishek Mali, Shamika Jog

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IoT Based Smart Street Lighting System

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Abstract: *In today's world people prefer to live a complex life everywhere. Scientific and technological advances are growing rapidly to meet the above requirements. With the development of advanced materials, Internet of Things (IoT) plays a major role in automatically automating various areas such as health monitoring, traffic management, agricultural irrigation, street lights, classrooms, etc. the earth and must be changed. In this survey we learned, how IoT is used to improve street lighting in a clever way in our time. It is an important factor in solving energy problems and developing street lights around the world. In addition to the study of intelligent street lighting systems we have analyzed and described the different sensors and components used in the IoT environment.*

Keyword: IoT, Smart System, Energy Saving, Environment, Street Lights, etc.

I. INTRODUCTION

The Internet of Things plays a very important role in everyday life. It connects the largest devices to the Internet and covers the use of various data points, all of which need protection. IoT is used in surveillance systems that analyze insecure objects, RFID tag in load, chemical industrial sensors, smart homes, military applications, health care, industrial management and environmental diversity.

In particular, street lights play an important role in cities where the main purpose is to improve the roads during the day. Previously, the number of roads in cities and towns was very small but with the growth of urban areas, the number of roads is increasing rapidly with high traffic energy consumption.

56.Use of Artificial Intelligence Chatbot System for Providing Health Related Information
by Nagnath Dudhnikar, Pratik Padyal, Prof. Shamika Jog

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Use of Artificial Intelligence Chatbot System for Providing Health Related Information

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Abstract: *Artificial Intelligence has core branches like, Machine Learning that takes in knowledge, searches patterns, improves itself mistreatment the information, and displays the result. to steer healthy manner attention is extremely abundant necessary. In few unsocialized areas, it's quite exhausting to search out a consultation with a doctor that simply relating to health problems, the most plan here is to form a attention chatbot supported computer science mistreatment IP which will diagnose the malady and supply needed details regarding the particular malady before consulting or visiting a doctor. Reduces the attention prices and improves accessibility to the present medical chatbot. Specific chatbots act as virtual medical help, that helps the patient recognize a lot of regarding their malady and helps to boost their health. The user is able to do the $64000 good thing about a chatbot only it will diagnose every kind of diseases and supply the mandatory data. A text-to-text medical chatbot involves patients in on-line language considering their health issues that provides a group of customized diagnoses supported their provided symptoms. These bots connect with the potential patients visiting the positioning, serving to them discover specialists, booking appointments, and obtaining them access to correct treatment. This chatbot uses tongue process techniques to method and analyze the information and provides the output inappropriate manner. It brings up the disease-related issues regarding whether or not the task mentioned higher than ought to be allotted to human workers. This attention chatbot system can offer patients attention support on-line in the least times. It helps to come up with health knowledge and mechanically delivers the data of reports to medical management. By asking the queries asynchronous it helps the patient by guiding what precisely the user is searching for queries.*

Keywords: Computer Science, Chatbot, Android, Program-o, etc.

57.Authentication and Authorization Based Industry 4.0 Security System by Kuber Topale, Aadeshkumar Sangale, Sunita Deshmukh

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Authentication and Authorization Based Industry 4.0 Security System

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Abstract: *Cryptography plays a critical role in the security of data transfer. The advancement of registering innovation places more stringent requirements on cryptography plans. The Advanced Encryption Standard (AES) defeated the Data Encryption Standard (DES) in 2000 increasing security prerequisites The AES, often known as Rijndael, is a cryptographic algorithm. The United States government receives a square figure as an encryption standard, which determines a secure encryption computation for private and sensitive data This is a symmetrical computation. A square figure capable of encoding and decoding data Encryption transforms data into a different format. Figure content is a jumbled structure. The content of the figure is unscrambled. Plaintext is the process of reorganising material into its original structure. The AES computation uses keys of lengths of 128, 192, and 256 bits to encode and decode data in 128-bit squares; as a result, the names AES-128, AES-192, and AES256 have evolved separately. The AES computation equipment can provide superior, straightforward results. In comparison to its product partners, it offers more applicability and reliability. As the need for more cryptographic systems grows, there is an increasing worry about processing power and speed of reaction. A framework is built that uses a parallel processing network to speed up the encryption and decryption process more quickly A higher level synthesis tool was used to create the frame work. The C-coded blocks were then transformed into synthesizable Verilog modules using the synthesis tool. The modules were then put through their paces in waveform analyzers and compared to open-source Verilog implementation. The results of the experiments showed that our methodology delivered accurate output results while also achieving a somewhat faster performance due to its parallel processing design.*

I. INRTODUCTION

58.Face Mask and Temperature Detection Using Convolution Neural Network by Vishal Nivangune, Digambar Gavhane, Makarand Jadhav

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Face Mask and Temperature Detection Using Convolution Neural Network

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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 deter virus transmission. According to survey reports, wearing a face mask at public places reduces the risk of transmission significantly. In this paper, an IoT- enabled smart door that uses 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-e ective and reliable method of using AI andsensors to build a healthy environment. Evaluation of the proposed framework is done by the Face Mask Detection algorithm using the TensorFlow software library. Besides, the body temperature of the individual is monitored using a non-contact temperature sensor. This proposed system can detect the users from COVID 19 by enabling the Internet of Things (IoT) technology.*

I. INTRODUCTION

Public use of face masks has been common in China and other nations in the world since the beginning of the new coronavirus diseaseoutbreak. We now know from recent studies that a significant portion of individuals with coronavirus lack symptoms and that even those who eventually develop symptoms ("pre-symptoenatic") can transmit the virus to others before showing symptoms, according to the advisory published by the health Centre. "This means that the virus can spread between people interacting in close proximity for example, speaking, coughing, or sneezing even if those people are not exhibiting symptoms".

The recent information also givestrace of a new strain of corona virus, the mutant corona virus which, in which the virus has changed its structure and become mutant. The new strain is not even able to detect using the RT-PCR test we use now. So, it is inevitable for the people of an overpopulated country like India to wear masks and let the work go on. Nobody can keep an eye on every person coming in the work space is wearinga mask or not. So, the need of Face mask detection arose. The model in this paper uses the Convolutional Neural Network. It is a deep neural network model used for analysing any visual imagery. It takes the image data as input, captures all the

59.Smart Hand Gesture Wheel Chair by Prof. U.J. Suryawanshi, Shivani P. Nale, Neha Bhagade

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Smart Hand Gesture Wheel Chair

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Abstract: *This Project is to develop a wheelchair control that is useful to the physically disabled person with his hand movement or his hand gesture recognition using Acceleration technology. Tremendous leaps have been made in the field of wheelchair technology. However, even these significant advances haven't been able to help quadriplegics navigate wheelchairs unassisted. It a wheelchair that can be controlled by simple hand gestures.*

Keywords: Microcontroller (AVR), Accelerometer (adxl 345), IR Sensor, DHT 11, etc.

I. INTRODUCTION

This project is to develop a wheelchair control that is useful to the physically disabled person with his hand movement or his hand gesture recognition using Acceleration technology. Tremendous leaps have been made in the field of wheelchair technology. However, even these significant advances haven't been able to help quadriplegics navigate wheelchairs unassisted. It is a wheelchair that can be controlled by simple hand gestures. It employs a sensor that controlsthe wheelchair hand gestures made by the user and interprets the motion intended by the user and moves accordingly. INAcceleration we have an Acceleration sensor. When we change the direction, the sensor registers values are changed andthose values are given to the microcontroller. Depending on the direction of the Acceleration, the microcontroller controlsthe wheelchair directions like LEFT, RIGHT, FRONT, and BACK.

II. LITERATURE SURVEY

The unfortunate event affects the motor capacity of a person, it is necessary to use devices like wheelchairs that offer a means of displacement for patients with motor problems in the lower limbs. Tremendous leaps have been made in the field of wheelchair technology. However, even though these significant advances haven't been able to help quadriplegics navigate a wheelchair unfortunate event affects the motor capacity of a person, it is necessary to use devices like wheelchairs that offer a means of displacement for patients with motor problems of the lower limbs.
Tremendous leaps have been made in the field of wheelchair technology. However, even these significant advances haven't been able to help quadriplegics navigate wheelchairs unassisted. Some

60. Smart Communicator for Dumb People by Mr. Surendra Sutar, Mr. Sagar Kumkar, Prof. Shahid Y. Tamboli

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Smart Communicator for Dumb People

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Abstract: *This project presents the Smart Communicator for Dumb People. The project is developed on Raspberry Pi module3. It uses the Optical character recognition technology for the identification of the printed characters using image sensing devices and computer programming. It converts images of typed, handwritten, or printed text into machine encoded text. In this research these images are converted into the audio output (Speech) through the use of Text-to- speech synthesis. The conversion of printed document into text files is done using Raspberry Pi which again uses Python programming. The text files are processed by Open CV library & python programming language and audio output is achieved.*

Keywords: Image Capturing, Raspberry-Pi, OCR Process, Text to Speech Convertor, Open CV Library, etc.

I. INTRODUCTION

Human communication today is mainly via speech and text. To access information in a text, a person needs to have vision or good education. However, those who are deprived of vision or dumb people can gather information using their hearing capability. Reading is very important in today's world. Blind people are an integral part of our society. However, their disabilities have forced them to be dependent on others for assistance for daily life activities such as shopping, reading signpost etc. Most published printed works do not include braille or audio versions, and digital versions are still a minority. On the other hand, Dumb or Blind people are not able to read the simple warnings in walls or signals that surround us because they are not educated. Thus, the development of a portable device that can perform the image to speech conversion, whether it's has a great potential and utility.

61.Quick Seed Quality Check Using Artificial Intelligence by Vishal Kamble, Ejaj Kazi, Prof. R. S. Mule

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Quick Seed Quality Check Using Artificial Intelligence

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Abstract: *Globally, wheat is the leading source of carbohydrates and fiber in human food. On an average, the wheat contains 12 percent water, 70 percent of carbohydrates, 12 percent protein, 2 percent fat, 1.8 percent minerals, and 2.2 percent crude fibers. As per the research the importance of identifying the quality of wheat cannot be overstated. Manually specifying or establishing the quality of wheat necessitates skilled judgement, which takes time. When wheat varieties appear to be so identical, manually distinguishing them becomes an extremely time-consuming operation.To overcome this problem, Image processing can be used to classify wheat according to its quality. The seed quality identification is very important in agriculture. Before boring the seed in farm, it must be viewed properly and then sowed. In the current scenario the farmersare taking more efforts in their farm and spending more time and money for better productivity. But despite their hard work, they do not get proper profit. So, the technology can come for rescue here make it more efficient. There are certain limitations to human eye to observe the seed. So, the electronic world helps us to separate the faulty and damaged seeds from quality seeds. The image processing algorithm is implemented using Python. The proposed technique is defined with the assistance of image processing mechanism with the help of Python software.*

Keywords: Convolutional Neural Network, Image Processing, etc.

I. INTRODUCTION

Wheat is one of the most nourishing grains, according to study. Wheat quality has a significant impact on heat yield, hence competent professional assessment of wheat quality is critical. During grain handling operations, Before the next course of action can be carried out, information on grain quality is necessary at numerous stages. Visual examination by farmers and employees quickly assesses the handling method, grain variety, and quality. This is a time-consuming and difficult evaluating procedure. Physical factors such as exhaustion and vision,

62.loud Detection and Tracking System using Machine Learning by Hameer Mahajani, Ganadhish Mardikar

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Cloud Detection and Tracking System using Machine Learning

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Abstract: *Cloud detection is an important task in remote sensing (RS) image processing. Numerous cloud detection algorithms have been developed. However, most existing methods suffer from the weakness of omitting small and thin clouds, and from an inability to discriminate clouds from photometrically similar regions, such as buildings and snow. Here, we derive a novel cloud detection algorithm for optical RS images, whereby test images are separated into three classes: thick clouds, thin clouds, and noncloudy. First, a simple linear iterative clustering algorithm is adopted that is able to segment potential clouds, including small clouds. Then, a natural scene statistics model is applied to the super pixels to distinguish between clouds and surface buildings. Finally, Gabor features are computed within each super pixel and a support vector machine is used to distinguish clouds from snow regions. The experimental results indicate that the proposed model outperforms state-of-the-art methods for cloud detection.*

Keywords: Sigmoid Function, Image, Object Detection, Object Tracking, Cloud Mask, Convolution Neural Networks, Optical Flow, Deep Learning, U-Net, Augmentation, etc.

I. INTRODUCTION

Cloud is an apparent mass of dense water fume in the air. Cloud-instigated inconstancy in sun-based radiation has gotten probably the best worry in the force matrix, as the portion of the overall industry of sun powered energy, that is, sunlight-based energy entrance, has consistently expanded lately. Clouds are significant as they bring precipitation, yet then again, mists become a deterrent when earth surface investigation is the target of satellite pictures. Satellite pictures are quite possibly the most impressive and significant apparatuses utilized by the researcher for the investigation of earth and space science. Lately, scientists have utilized satellite picture information accessible from various hotspots for the investigation of mists. Cloud detection is an essential and important process in satellite remote sensing.

Researchers proposed variousmethods for cloud detection. Literature reported different strategies to identify the

63.Controlling A 4 Axis Delta Robot Using Mapp Cockpit by Ashwin Shipalkar, Pratik Nawale, Sharad Sawant

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Controlling A 4 Axis Delta Robot using MAPP Cockpit

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Abstract: *Delta Robot holds high importance in industries worldwide and is used for various purposes. Delta Robot is a type of parallel manipulator robot which provides very fast and accurate object manipulation capabilities. 4 Axis Delta Robot consists of three arms connected to universal joints at the base. The key design feature is the use of parallelograms in the arms, which maintains the orientation of the end effector, by contrast to Stewart platform that can change the orientation of its end effector. Delta robots are robots with a base connected to jointed parallelograms. These parallelograms perform motions in a solitary End of Arm Tooling (EOAT), within a workspace that is dome- shaped. This type of robot is well-known in the industrial field for its ability to execute minute, precise motions. Delta robots have popular usage in picking and packaging in factories because they can be quite fast, some executing up to 300 picks per minute. Each of them was designed to be tailored to industrial applications. These structures consist of fast pick-and-place robots as well as high stiffness machines for insertion and tool machining operations. To deal with this, each robot will be emphasized through its specifications and the application it has been developed for. The delta does have its drawbacks. All that speed typically carries some weaknesses in other areas. For the delta, this tradeoff is the speed for reach and payload. The mechanical design doesn't allow the delta to move very heavy loads.*

64.Agricultural Analysis System Using IOT by Aditya Khode, Tejas Warbhe, Gouri Bramhankar

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Agricultural Analysis System Using IOT

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Abstract: *Agrarian sector in India is facing rigorous problem to maximize the crop productivity. More than 60 percent of the crop still depends on monsoon rainfall. Recent developments in Information Technology for agriculture field has become an interesting research area to predict the crop yield. The problem of yield prediction is a major problem that remains to be solved based on available data. Data Mining techniques are the better choices for this purpose. Different Data Mining techniques are used and evaluated in agriculture for estimating the future year's crop production. This project presents a brief analysis of crop yield prediction using data mining algorithms. Agriculture in today's life is not like as our forefather done. The strong Climatic changes due to many reasons like global warming cause difficulty to under- stand climatic conditions. So, the farmers unable to understand which crop to select by which the production will improve. By understanding soil and climate conditions by using these data mining system farmers will be able to take right crop at right place which will improve yields. So, it is easy for farmers to decide which crop to take in unpredictable climate conditions. This project will help to solve these agriculture problems using data mining algorithms. Algorithms like SVM, Naive Bye scan be used.*

I. INTRODUCTION

The agricultural industry is the bedrock of every nation. Agriculture offers food and raw resources to the country's people. For many people, it is their sole source of income. People who are members of Agriculture confronts various issues, including as diminishing production, as a result of inappropriate climatic changes, floods, scarcity, and a variety of other environmental factors and rarely variables. They are unable to work in agriculture for these reasons. We can employ IT technology to help us solve these problems (IT). In today's society, information technology is used in almost every industry. Data mining is a type of information technology that can be used to address the aforementioned agricultural concerns.

The core idea of data mining is that it extracts meaningful data from big datasets. To be more exact, it is a means of collecting important information from large amounts of data. It is the process of automatically examining large data

65.An Enhanced Irrigation Approach In Agriculture Using IoT Platform Mr. Nilesh Jadhav, Mr. Omkar Bane, Prof. S. D. Sawant

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AN ENHANCED IRRIGATION APPROACH IN AGRICULTURE USING IOT PLATFORM

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Abstract: *Water is the important source in human life. Around 80 % to 90 % water used in agriculture field. As due to day-by-day growth in globalization and population water consumption is also increases. There is challenge in front of every country to reduce the farm water consumption and provide fresh and healthy food. Today automation is one of the important roles in human life. The system is not only providing comfort but also reduce energy, efficiency and time saving. Whenever there is a change in temperature, humidity and current status of rain of the surroundings these sensors sense the change in temperature and humidity and gives an interrupt signal to the raspberry pi. Now a day the industries are using an automation and control machines which are high in cost and not suitable for using in a farm & garden field. So, in this work we design a smart irrigation technology based on IOT using Raspberry pi. The system can be used to control the water motor automatically and can also monitor the growth of plant by using webcam. We can watch live streaming of farm on mobile phone using suitable application by using Wi-Fi network. Raspberry pi is the main heart of the overall system.*

I. INTRODUCTION

India is one among the biggest water users within the world, and our country uses great deal of water than alternative country. There's an out sized quantity of water employed in agriculture field instead of domestic and industrial sector. Sixty-fifth of total water is contributing as a groundwater. Nowadays water has become one among the necessary supply on the planet and most of employed in the agriculture field. As the soil-moisture sensor and temperature sensor are placed in the root zone of the plants, the system can distribute this information through the wireless network. The Raspberry Pi is that the heart of the system and is interfaced with via Wi-Fi Module. Python programming language is employed for automation purpose. The system is a network of wireless sensors and a wireless base station which can be used to provide the sensors data to automate the irrigation system.

The system is used the sensors such as soil moisture sensor and soil temperature sensor. The Raspberry Pi

66.Alumni Tracking System by Pradnya Jadhav, Sheetal Gavali, Prof. Gauri Brahmnakar

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ALUMNI TRACKING SYSTEM

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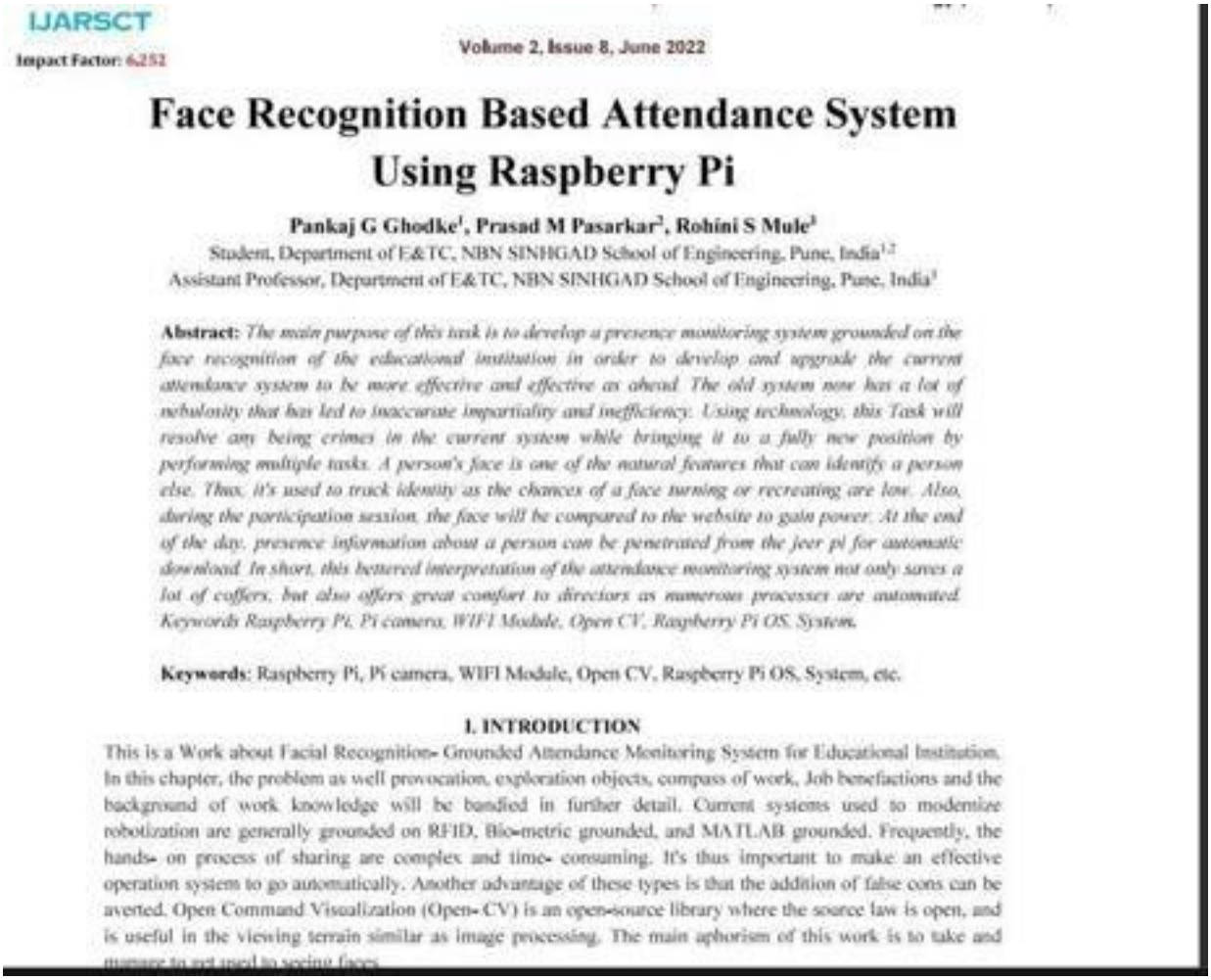
Abstract: *Alumni Tracking System is application based platform that will help student , alumni to connect together with the help of this application. This application can be accessed throghout the world. Anyone can access the data from anywhere. We were developed a real time application using java language. The project aims to improve current tracking procedure of college graduates and providing alumni data to college faculties.*

I. INTRODUCTION

The existing system is a computerised system but which is maintained at individual database i.e., in excel sheets, it's a time delay process. And maintaining all the records in excel sheet is difficult nowadays tracking of alumni data is very difficult task for the college management system and faculties for that purpose we are going to develop android application which are based on Google firebase Technology. In that we are going to create a database of the college graduates or alumni. The alumni information database is a web base application that can be accessed throughout the world. While we open android application, we will see a registration page after that we need to do registration by filling basic details for e.g. First name, last name, mobile no, email-id then we have to click on the submit button. After that we get one verification mail.

Same procedure followed for student and alumni. with the help of this app the co-ordination between student, alumni, and college faculties or admin are smoothly. This application is a real time base application, data is stored and synchronised in a real time to every connected client .in that we can update, insert and delete a data. There will be give option for update. Based on this deploy the existing system and we need to work on the new system which will be helpful to the all graduates and currently pursuing fresher. Existing system are very costly so they want to deploy the existing system instead of using costly system we are going to provide standalone and application-based system which is easy to access and easy to use for all and basically this is the real time application so you need to fully control how you engage with alumni and the experience they get. This management platform will allow you to keep control of the data about the alumni engage them through this medium.

67.Face Recognition Based Attendance System Using Raspberry Pi by Pankaj G Ghodke, Prasad M Pasarkar, Rohini S Mule



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Face Recognition Based Attendance System Using Raspberry Pi

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Abstract: *The main purpose of this task is to develop a presence monitoring system grounded on the face recognition of the educational institution in order to develop and upgrade the current attendance system to be more effective and effective as ahead. The old system now has a lot of nebulosity that has led to inaccurate impartiality and inefficiency. Using technology, this Task will resolve any being crimes in the current system while bringing it to a fully new position by performing multiple tasks. A person's face is one of the natural features that can identify a person else. Thus, it's used to track identity as the chances of a face turning or recreating are low. Also, during the participation session, the face will be compared to the website to gain power. At the end of the day, presence information about a person can be penetrated from the feer pi for automatic download. In short, this bettered interpretation of the attendance monitoring system not only saves a lot of coffers, but also offers great comfort to directors as numerous processes are automated.*
Keywords Raspberry Pi, Pi camera, WIFI Module, Open CV, Raspberry Pi OS, System.

Keywords: Raspberry Pi, Pi camera, WIFI Module, Open CV, Raspberry Pi OS, System, etc.

I. INTRODUCTION

This is a Work about Facial Recognition- Grounded Attendance Monitoring System for Educational Institution. In this chapter, the problem as well provocation, exploration objects, compass of work, Job benefactions and the background of work knowledge will be bandied in further detail. Current systems used to modernize robotization are generally grounded on RFID, Bio-metric grounded, and MATLAB grounded. Frequently, the hands- on process of sharing are complex and time- consuming. It's thus important to make an effective operation system to go automatically. Another advantage of these types is that the addition of false cons can be averted. Open Command Visualization (Open- CV) is an open-source library where the source law is open, and is useful in the viewing terrain similar as image processing. The main aphorism of this work is to take and manage to get used to seeing faces

68. Real Time Object Detection for Blind People Using Machine Learning by Shreeyash Pitke, Shubham Chitte, Prof. S. P. Deshmukh

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Real Time Object Detection for Blind People Using Machine Learning

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Abstract: *There are number of blind people in the society, who are suffering while exercising the basic things of daily life and that could put lives at risk while travelling. There is a necessity these days to provide security and safety to blindpeople. There have been few devices designed so far to help the blind. Blindness or visual impairment is a condition that affects many people around the world. The usage of the blind navigation system is very less and is not efficient. The blind traveler is dependent on other guide like white cane, information given by the people, trained dogs etc. So, here we are proposing a self-assistance system for blind people, which will be able to convey the person about direction and type of obstacle across his path.*

Keywords: CNN Algorithm, Raspberry Pi, Data Base Images or Videos, etc.

I. INTRODUCTION

Blindness, as well as low vision, are conditions where people have a decreased ability to see and visualize the outside world. This reduces their mobility and productivity in completing daily tasks. Blind people usually dependon experience, smart sticks or some other people to help them in walking and avoiding obstacles. They do not havea sense of sight which makes them highly dependent on their memory. Also, they cannot be aware of sudden changes in the surroundings which makes it almost impossible to react to an instantaneous situation. Understandingany of the visual aspects like color, orientation and depth of an object is not easy. Comprehending a three- dimensional object in a single go requires more time and effort than otherwise. However, in the recent past, technology has made much advancement for visually impaired human beings. Hands free devices work completelyon the audio input of users.

They do not require any visual or touch interaction which works as a boon for them. There are screen readers to help them read the screens on devices. However, these devices are not enough to make the personal and professional life of sight impaired people easy. They only take audio input and when users want to understand the images of their surroundings or texts, these are not very helpful. Research is still going on how to make

69.Automatic Speed Control of Vehicles Based on Signboard Recognition P by rof. Sharad Patil, Mr. Mayur Patil, Ms. Shraddha Jadhav, Ms. Pratiksha Tithe, Ms. Soniya Nigade

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Automatic Speed Control of Vehicles Based on Signboard Recognition

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Abstract: *The system proposed in this paper is an advanced solution for automatic speed control of vehicles based on speed limit signboard recognition. The technology behind this system is image processing technique which is used in manyfields such as space exploration, medicine, geology, etc. The main objective of this paper is to demonstrate the ability of image processing algorithms on embedded computing platforms. It describes a road sign recognition system based on an embedded system that reads and recognizes speed signs and also controls the speed of the moving vehicle. The paper also describes how to deal with numbers using image processing techniques based on shape and dimension analysis. Colour analysis plays an important role in road sign detection. Visual Studio, an embedded computing platform, and Arduino Uno are the main components to implement this system, as they have built-in capabilities. this is a computer vision-based system for traffic sign detection, tracking, and recognition in real-time. The signs on the roadside are captured with the help of a camera interface. The captured image is then compared with pre-defined road signs or preset algorithms. Dimension analysis is performed with the help of the K nearest algorithm. Upon obtaining the best match, the corresponding speed limit in the detected image will be sent to the visual studio that runs python code. Arduino will generate a pulse width modulated signal to control the speed of the vehicle (DC Motor) accordingly with the help of motor driver L298N.*

Keywords: Arduino Uno, Python, DC Motors, L298N, Visual Studio, Traffic Sign Detection, etc.

I. INTRODUCTION

Traffic signs play an important role while driving. They act as route guides, warnings, and traffic regulators. Avoiding this leads to the loss of lives. In adverse traffic conditions, the driver may not notice traffic signs, which may cause accidents. In such scenarios, automatic road sign detection comes into effect [1]. There are four types of traffic signs that usually show in the traffic code: a) warning; b) prohibition; c) obligation; and d)

70. Transmission Line Fault Detection Using IoT by Ganesh Ashokrao Jadhav, Subhash Annasaheb Shinde, Rushikesh Rajendra Jadhav, Kailas Gulab Giri, Prof. N. R. Dagade

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Transmission Line Fault Detection Using IoT

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Abstract: *Due to transmission line conditions, transmission lines are susceptible to a wide range of defects. The defect is difficult to diagnose, and the entire cable should be replaced. Using a microcontroller, this project will detectthe location of a fault in transmission cable lines from the base station in kilometers. When a defect occurs, the voltage between series resistors changes, which is then supplied to an ADC, which produces exact digital data for a programmed destination. It also shows the distance between faults. Location may be tracked using GPS. On a 16X2 LCD connected to the microcontroller, the fault distance, phase, and time are displayed. The Wi-Fi module is utilized in IOT to display information over the Internet. The information concerning the occurrence of the defect is shown in anwebpage produced with HTML code.*

Key Words: Internet of Things, Short Circuit Fault, Open Circuit Fault, Voltage Sensor, Current Sensor, Arduino, Microcontroller, GPS, etc.

I. INTRODUCTION

One of the most important components of the electricity system is the transmission network. When compared to other sections of the power system, transmission and distribution network losses are considered to be extremely high. The electric power grid is extremely vulnerable to a variety of natural and malicious physical events. To detect faulty transmission lines, many electric power transmission companies have relied primarily on circuit indicators. Several of these issues are addressed by wireless sensor-based transmission line monitoring, such as real-time structural awareness, faster fault localization, accurate fault diagnosis by identifying and distinguishing electrical faults from mechanical faults, cost savings due to condition-based maintenance rather than periodic maintenance, and so on.

These applications have strict requirements, such as delivering a large amount of highly reliable data quickly. The design of a cost-effective and reliable network architecture with a fast response time is critical to the success of these applications. The network must be capable of transporting sensitive data to and from the transmission grid, such as transmission line status and control data. This paper presents a framework for

71. Renewable Eforecasting for an Integrated Smart Grid by Prof. Nikhil Shelke, Ms. Swati Jankar, Ms. Pooja Mohite, Ms. Pratiksha Koli, Ms. Ashwin Murkute

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Renewable Eforecasting for an Integrated Smart Grid

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Abstract: *Now a day's electricity is most demanded installation for the mortal being. All the conventional energy coffers depletion is being happening every day. So, we've to shift from conventional to non- conventional energy coffers. In this coffer of wind and solar energy combination takes place. We are going to use cold-blooded energy system for continuation of power. Principally in this system integration of two energy system used which gives continue power supply. For solar energy conversion Solar panels are used and conversion of wind energy to electrical energy wind turbines are used. Electricity generation will be at affordable cost. This paper deals with the generation of electricity by using two sources combine which leads to induce electricity with affordable cost without damaging the nature balance. Wind and solar energy. This process reviles the sustainable energy coffers without damaging the nature. This paper deals with the generation of electricity by using two sources combine which leads to induce electricity with affordable cost without damaging the nature balance.*

Keywords: Energy, Microcontroller, Solar panel Resistance, LCD, etc.

I. INTRODUCTION

Now a day's electrical energy is generated by the conventional energy resources like coal, diesel, and nuclear etc. These sources produce waste like ash in coal power plant, nuclear waste in nuclear power plant and taking care of this wastage is very costly this is the biggest disadvantage and it also damages he nature, nuclear waste affects human being too. We have to find another alternative for generation of electricity which will be reliable, pollution free and economical too, because these conventional energy sources are being depleting. There are many non-conventional energy resources like geothermal, tidal, wind, solar etc. the tidal energy has drawbacks like it can only implemented on sea shores.

While geothermal energy needs very lager step to extract heat from earth. Solar and wind are easily available in

72 .Integrated Automatic Flood Warning and Alert System Using IoT by Prof. S. S. Chavan, Shubham Santosh Lakhimale, Rohit Ramuji Pendem, Mahesh Suresh Patil, Tushar Dattaram Manjarekar

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Integrated Automatic Flood Warning and Alert System Using IoT

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Abstract: *Flood is major problem in our world. Flood is an unavoidable natural disaster in all over the world, causing heavy flow of water and also severe damage to properties and lives. For this reason, we need to create a flood detection system to monitor rising water residential areas. By using ultrasonic sensors, we need to create flood level sensing devices which will detect the water level. This system is integrated to the microcontroller board which will help to send the data each time the water reaches the will be stored in a cloud. The data stored in the cloud will help to send it to the users. The user can get real-time information on monitoring flooded roads through android application.*
The ultrasonic sensor senses the continuously water level and LM35 is used for sense the temperature. This data fed to the Arduino UNO. The Arduino uno compare and analyse data to set threshold value. Then the alert SMS send to the mobile and also the LED are glow frequently. Also, buzzer will be activated. Due to the android application, it is user friendly and helps to get information in one touch. Update will be given to the rescue team and to the residents of the locality and in order to alert the person in charge of the control unit, the buzzer and LED will give information. This project is useful for future displacement.

Keywords: Arduino Uno, Ultrasonic Sensor, IoT Wi-Fi Module, LCD, Buzzer, LED's, LM35, etc.

I. INTRODUCTION

Flood is an unavoidable natural disaster in all over the world, causing heavy flow of water and also severe damage to properties and lives. Flood is affected to various material as well as human beings. It's made financial losses. Flash floods and massive traffic jam on roads also caused by heavy rain. Thus, it is important to be able to warn the people who are most at risk, so that the effects of these disasters can be reduced.

In earlier situation in Maharashtra, In July 2021, the most affected regions are the districts of Raigad, Ratnagiri, Sindhudurg, Satara, Sangali and Kolhapur. Due to heavy rains, more than 1,020 villages are affected in these districts.

73. Essential Medicines by Drones in Hospital-to-Hospital Use by Prof. Avinash Chavhan , Mr. Akshay Jadhav, Mr. Rohit Madigar, Mr. Shivam Gujar, Mr. Rohit Sonawane

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Essential Medicines by Drones in Hospital-to-Hospital Use

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Abstract: *In this project, the use of current drone technologies is reviewed, optimized, and used to demonstrate the feasibility of medical supply delivery hospital to hospital use via UAV (unmanned aerial vehicle). This project focuses on the design of a biocompatible payload and a modified drone to accomplish medical supply delivery hospital to hospital use. The design of the payload and UAV arm mechanism must consider the safety of medical supplies, medical equipment and blood biocompatibility throughout the duration of the delivery. Multiple drone and payload design iterations were created to address the lack of medical attention in hospital-to-hospital use. Various designs were implemented in a prototype to create a demonstration of concept feasibility. Each design has its own parameters and components that collectively make up the payload and drone delivery system. This research paper describes, analyzes and reports experimental results of the final drone delivery and payload design, as well as the steps taken throughout the duration of the project. This study is aimed to provide medical assistance to people through the delivery of medical supplies by unmanned drones. The use of unmanned drones is reinforced through an application that has the potential to benefit people in distant areas around the world. This study hopes to expand drone technology and the application of drones. The nature of the project and how it was conducted will be explained. Outcomes of this study include a proof of concept, the assembly of a working prototype and the evaluation of the prototype's performance. In order to make the project a success, adequate funding and resources were sought out for prototype assembly.*

Keywords: People Safety, Drone (unmanned arial vehicle), Hospital to Hospital Use, Blood Samples, Medicines, etc.

74. Arduino Based Automatic Street Lighting for Energy Conversion byProf. Minakshi. L. Jadhav, Sharik Abdulgani Shaikh, Faisal Babasaheb Sayyad, Arun Atul Solunke, Arun Pradip Katakdhond

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Arduino Based Automatic Street Lighting for Energy Conversion

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Abstract: *The objective of the project is to provide automatic control and fault detection of street lamps. The lighting system which targets the energy and automatic operation on economical affordable for the streets and send information about the street lamp fault to the control room. Moreover, errors which occur due to manual operation can also eliminate. The street light system is checking the weather for street lamp ON/OFF condition. The weather is bright or dark, are sense through a LDR sensor. If the weather is bright, the system will be OFF otherwise system will be ON. The light condition is also used to check the lamp glowing status through LDR sensor. If light glows then the sensor sends the value to street light system through the Wi-Fi module. Here, also the PIR sensor is used to measure the motion of vehicle or any other object. According to the program, whenever there is no vehicle cross as the PIR sensor, the light will glow as dim. Otherwise, the light will glow as bright.*

Keywords: Battery, Arduino, IR sensors, LED, Solar Panel, Power supply, etc.

I. INTRODUCTION

In any city, ' street light ' is one of the major power consuming factors. Even in the daytime when there is no requirement of street lights, it is frequently seen that these lights remain ON violating the energy conservation rule. This continuous lighting pollutes the environment as well as increases the tariff of the electricity. The use of streetlight is in public transportation during night time or when the daylight is very feeble.

Therefore, the design and controlling of street lighting is an important area of work for maintaining safe transportation in our daily life Also, we can help out to avoid the accidents that are usually happening in the u - turns

75 Comparative Analysis of Battery with Lithium-Ion Battery for Renewable Energy Storage by Mrs. Priyanka Chawhan, Prof. A. V. Harkut, Prof. P. R. Jawale

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Comparative Analysis of Battery with Lithium-Ion Battery for Renewable Energy Storage

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Abstract: *A battery is essential for the renewable and sustainable development of electrical and electronic technology. This Lithium-ion has been focused and described based on a comparative analysis of various types of batteries such as Lithium-ion batteries, electro-chemical batteries, fuel cells batteries, and solar cells batteries. In contrast, electrochemical batteries are widely used in the current scenario for renewable and sustainable development, but they have some drawbacks such as limited life, leakage, and environmental concerns. Fuel cell batteries, on the other hand, are expensive and not portable in size. Similarly, solar cell batteries are not adaptable and versatile in emergency power backup. To address emergency power backup issues, It required an auxiliary power backup battery, which increased the overall system size. While a lithium-ion battery is an ultra-thin, flexible energy storage device that has advantages over other batteries such as being light in weight, rechargeable, biodegradable, non-toxic, having no leakage, no overheating, having a long life, being easily reusable, and recyclable. This battery description and comparison will be followed and evaluated by a discussion on the ethical issues surrounding the Lithium-ion battery, particularly for renewable and sustainable development.*

Keywords: Battery, Lithium-Ion Battery, Renewable Energy, etc.

76. Anti-Theft Two-Wheeler System using IoT by Mr. Chanchal C. Ganvir, Valmik. P. Patil, Aniket. M. Chatare, Avi. H. Bhavsar, Prof. S. D. Yelgatte

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Anti-Theft Two-Wheeler System Using IoT

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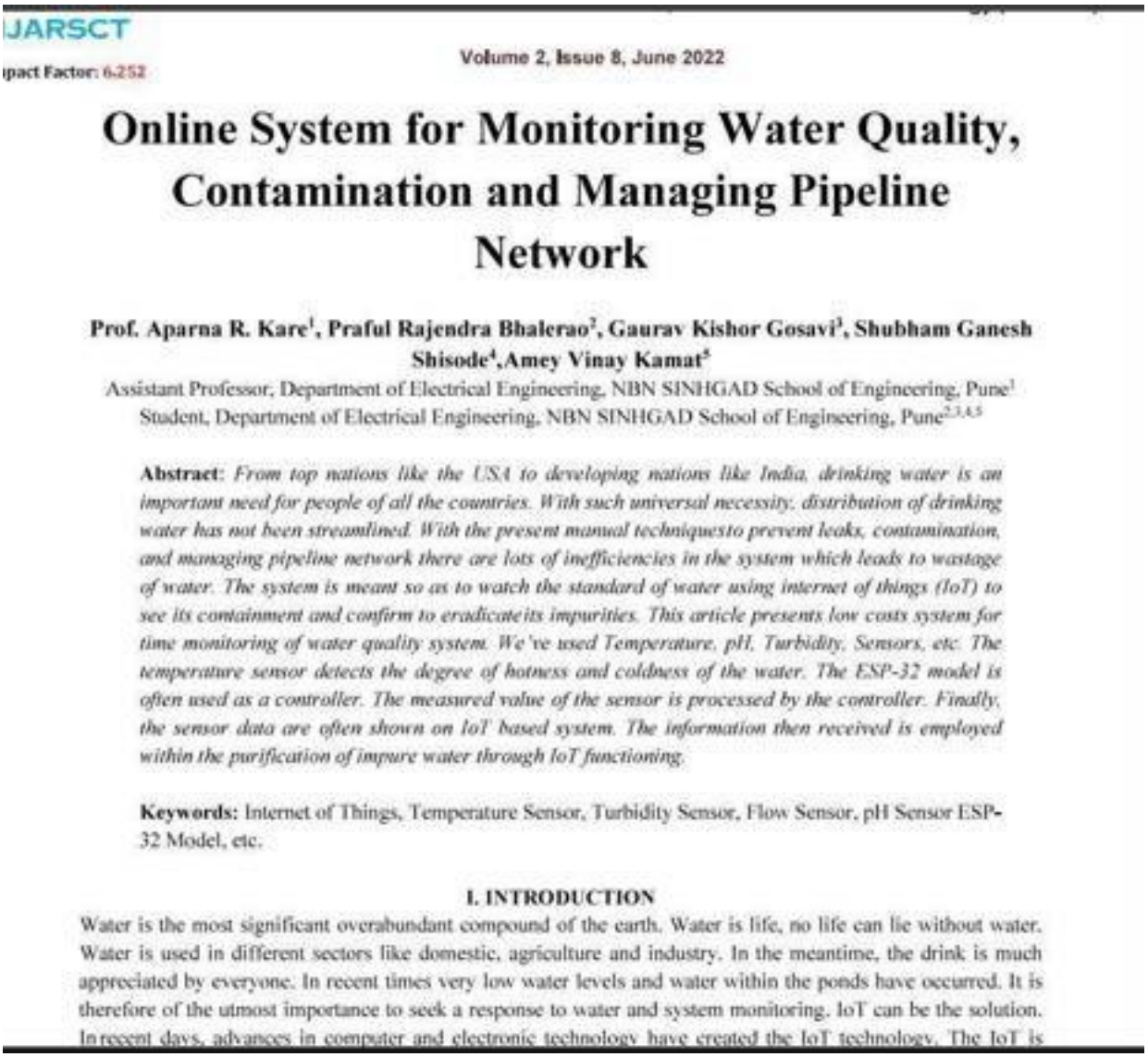
Abstract: *According to NCRB NATIONAL CRIME RECORD BUREAU of India in 2020 more than 494 thousand cases ofvehicles Theft were reported across the India. That's the very serious issue. and huge loss of money for ordinary citizens of the country. For that to save this enormous money of people who spend their hard-earned money to purchased their vehicles. We made a security system to Stop all this vehicle Thefts and prevent vehicles from being stolen. Our system is Named as "Anti-theft Two-Wheeler System Using IoT (Internet of things)". In this system here is the security system which will alert a user from Theft and another one is GPS Live Location Tracking System we have created web server on nodemcu esp8266 and on that server we are displaying Google Maps to show real-time location with multiple location markers. You can set the interval from the code to update the GPS location on the google maps i.e. If you set the interval to 20 seconds (20000ms) then the location will update every 20 seconds. GPS Location tracker will track the live location of the vehicle, and will also give the location coordinates like latitude and longitude with date and time. We can see location Via smartphone through Google maps. To power up our entire circuit we build the supply circuit for ESP8266 NodeMcu Wi-Fi Module And security systemto which alarm and the PIR (passive infrared sensor) sensor are connected. And our Neo 6M GPS MODULE is connected to the ESP8266 NodeMcu Wi-Fi Module. And our code is written in the language of the C++ programming.*

Keywords: Node MCU ESP82662, GPS Module, Transistors, Voltage Regulator IC7805, Buzzer, PIR SENSOR, 5 Volt Power Supply DC, etc.

I. INTRODUCTION

Whenever a consumer buys a product, the joy created thanks to this new possession is in danger by the risk of loss or theft of the specific item. every year millions of motor vehicles are stolen worldwide, causing an enormous loss of capital. For instance, according to the insurance information institute, only in the USA, in 2019, about $6.4 billion was lost to motor vehicle theft. Additionally, according to the international crime victim

77. Online System for Monitoring Water Quality, Contamination and Managing Pipeline Network by Prof. Aparna R. Kare, Praful Rajendra Bhalerao, Gaurav Kishor Gosavi, Shubham Ganesh Shisode, Amey Vinay Kamat



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Online System for Monitoring Water Quality, Contamination and Managing Pipeline Network

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Abstract: *From top nations like the USA to developing nations like India, drinking water is an important need for people of all the countries. With such universal necessity, distribution of drinking water has not been streamlined. With the present manual techniquesto prevent leaks, contamination, and managing pipeline network there are lots of inefficiencies in the system which leads to wastage of water. The system is meant so as to watch the standard of water using internet of things (IoT) to see its containment and confirm to eradicateits impurities. This article presents low costs system for time monitoring of water quality system. We've used Temperature, pH, Turbidity, Sensors, etc. The temperature sensor detects the degree of hotness and coldness of the water. The ESP-32 model is often used as a controller. The measured value of the sensor is processed by the controller. Finally, the sensor data are often shown on IoT based system. The information then received is employed within the purification of impure water through IoT functioning.*

Keywords: Internet of Things, Temperature Sensor, Turbidity Sensor, Flow Sensor, pH Sensor ESP-32 Model, etc.

I. INTRODUCTION

Water is the most significant overabundant compound of the earth. Water is life, no life can lie without water. Water is used in different sectors like domestic, agriculture and industry. In the meantime, the drink is much appreciated by everyone. In recent times very low water levels and water within the ponds have occurred. It is therefore of the utmost importance to seek a response to water and system monitoring. IoT can be the solution. In recent days, advances in computer and electronic technology have created the IoT technology. The IoT is

78. IoT Based Smart Accident Monitoring System by Prof. Avinash Chavhan, Ms. Samiksha Matre, Ms. Priya Gajbe, Mr. Prasann Ranjan, Mr. Ayaz Fanan

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IoT Based Smart Accident Monitoring System

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Abstract: *Car accidents truly can be considered as one of the most disastrous phenomena. Though the reasons can be different for those accidents like the main problem can be driver's unawareness as well as speed. With the help of IoT we can try to prevent as well as reduce the number of accidents. In this project, we are developing a system which will monitor and help to reduce those accidents. The system will also notify you if a driver has been drinking and that the speed limit has been exceeded. And will also notify the person related to the victim if accident has unfortunately occurred.*

Keywords: Global Positioning System, ARDUINO IDE, ESP8266, MPU6050, MQ3 Sensor, etc.

I. INTRODUCTION

We studied on the statistical facts in the real-time world and we found out that total number ofCars in the world are 1.4 billion (Roughly around 140 Crores) & the number of Cars in India is around 30 million (Roughly 3 Crores). The Accidental death rate of the entire world is around 4 Lakhs in 2019 and that of India is around a Lakh in the year 2019. Due to lockdowns since a year andhalf, the Accidental death rate has lowered in these 2 years. But the serious problem involved with Accident death is that the Victims don't get immediate assistance and they are struggling for a few hours before reaching to the hospital. We were confident that we would work on this project theme to build a Product and IoT EcoSystem that would provide immediate assistance to accident victims who could save their lives.

Currently many Big Automotive companies such as BMW, Mercedes Benz etc. have systems in placethat can prevent Accidents in a variety of ways but which can notify Authorities or their relatives in the event of an Accident. In this Project, we are working on the System that can prevent the Accidentas well as Notify and give the Alerts on Mobile App.

By using Embedded Systems sensors along with Internet of Things Algorithms. The Methods we have considered are, detecting Alcohol consumption of the Driver, by using a Sensor and Detecting Sudden change in the Car which will be considered as the Accident. Both these sensors send the data to the IOT Controller

79. Performance Evaluation of E-Bicycle through Simulation and Experimental Analysis by Mrs. Priyanka Chawhan, Prof. A. V. Harkut, Prof. P. R. Jawale

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Performance Evaluation of E-Bicycle through Simulation and Experimental Analysis

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Abstract: *Electric mobility contributing to greater extent to balance the energy and power demands, energy storage units as well as environment safety for current automobile sector. Electric vehicle has major efficient features of zero combustion, longer charging and discharging cycle which plays a vital role to replace the ongoing increase in price of petroleum fuels and its harmful effect son environment with their degrading store. Many non-conventional energy sources like solar, tidal, wind etc. Can be used to generate energy and store it in suitable types of batteries to run these vehicles. The Different types of batteries like lead acid, lithium ion, nickel bromide is used as an energy storage device for these electric vehicles. But with many advantages these batteries have some structural and thermal issues if not designed or connected properly. These issues are capacity loss, cell balancing, thermal runaway, reduction in battery life etc. therefore much focus need to give on proper battery connections considering its working parameters. Possible types of connections for batteries are active, passive and semi active as per their connections in series and parallel type. The present work focused on comparison of different batteries used in electric vehicle, various Lithium-ion parameters of electric vehicle i.e., Comparative analysis of both series and parallel connection of batteries through its charge and discharge circuit connection, various electrical connections for battery and its effects on performance parameters. This analysis will be carried out with Experimental and simulation study by analyzing the behavior of it on battery performance characteristics such as state of charge, voltage and current variation as per load cycle.*

Keywords: E-mobility, Types of Batteries, Series and Parallel Connections, State of Charge, etc.

I. INTRODUCTION

Due to the single battery cell's restricted voltage and capacity, series and parallel connections are required in actual operation to achieve higher voltage and capacity and match the equipment's actual power consumption.

80.Smart Classroom Attendance Using RFID Module by Prof. S. D. Yelgatte, Swarali Subhash Baravkar, Pavan Gorakh Gund, Mandar Chandrakant Kokate, Premraj Vitthal Shinde, Shubhankit Sharma

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Smart Classroom Attendance Using RFID Module

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Abstract: *The world is leading to the edge of the automation. Automation also consists up gradation of the technologies. In this era the RFID (Radio Frequency Identification) is one of the best contactless communication systems. It is nothing but the interfacing of RFID with Arduino. It can read the wireless data, and also store it. In this research, we proposed an automatic attendance by using RFID. In this research when the student card brought close to the RFID module, it reads the card data, verify the data with system, and stored it in its internal memory. Also, we used IR sensors to count the total number of students entered in the class. So that will be helpful to recognize total number of students present in the classroom & actual RFID tag scanned by the reader which finds out the proxy in system.*

Keywords: Attendance System, Radio Frequency Identification Technology, Arduino, Liquid Crystal Display, IR Sensors, RTC Module, etc.

I. INTRODUCTION

Main concept behind radio frequency-based attendance system is to take the attendance. RFID card has to be show in front of RFID reader, and then the attendance of the person is noted down in the microcontroller memory. RFID based attendance system is one of the solutions to address the problem of student security by increasing the system efficiency instead of photo ID card, it also helps to take the attendance of the workers at their working place. Its ability to uniquely identify each person based on their RFID tag type of ID card make the attendance process easier, faster and secure as compare to traditional method. The card holder only needs to place their card on the reader and while entering in the classroom the IR sensors make a count of student.

81.Aero Dynamic Wind Mill with Reverse Charge Protection for Rural Power Generation by Tanaya Borde, Pooja Patil, Megha Patil, Nisha Gotsurve, Prof. Ms. Minakshi Jadhav

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Aero Dynamic Wind Mill with Reverse Charge Protection for Rural Power Generation

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Abstract: *Energy is a major input for overall socio-economic development of any society. Wind energy is the fastest growing renewable energy. From centuries man has been trying to convert wind generation to mechanical &, more recently, electric power. Wind technology has improved significantly over the past twenty years, and wind energy has becomeincreasingly competitive with other power generation options. Wind generation has negligible fuel costs. A key challenge for wind energy is that electricity production depends on when winds blow instead of when consumers need power. the quantity of electricity generated from wind has been growing rapidly in recent years. the facility in the wind can be computed by using the concepts of kinetics. The wind mill works on the principle of converting K.E. of the wind to mechanical energy. the facility available in the wind increases rapidly with the speed hence wind energy conversion machines should be located preferable in areas where the winds are strong & persistent. Project is meant by using an aero dynamic wind blade arrangement which is connected to the shaft of the dc geared motor such that its output is given to the Reverse polarity preventer cum polarity corrector. Use of embedded technology makes this technique efficient and reliable. Micro controller (AT89S52) allows dynamic and faster control. liquid display (LCD) makes the system user-friendly to get the voltage. AT89S52 micro controller is that the heart ofthe circuit as it controls all the functions.*

Keywords: Wind Mill, Liquid Crystal Display (LCD), Micro Controller (AT89S52), etc.

I. INTRODUCTION

Solar photovoltaic energy conversion system. Depending upon the movement of the wind blade (clock wise / anti clock wise) the polarity is often corrected automatically which is given as an input supply to the 12V DC rechargeable battery. The o/p of this lead acid battery is given as input to the inverter which drives the AC loads. The battery is connected to the inverter. This inverter is employed to convert the 12 Volt D.C to the 230 Volt A.C. This 230 Volt A.C voltage is employed to activate the loads. Here we also are using Conventional Battery Charger

82.Solution for Predictive Maintenance and Battery Life Saver for Electric Vehicles by Prof. M. L. Jadhav, Vinod Sambhaji Ghuge, Amar Gajanan Mistri, Prasad Shesherao Raut, Vaishnav Madhukar Shevale

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Solution for Predictive Maintenance and Battery Life Saverfor Electric Vehicles

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Abstract: *In today's era, due to inflation, environmental pollution and expensive maintenance of diesel vehicles, people will definitely think about the use of electric vehicles as an alternative. Electric vehicles are made up of two main components such as BLDC motor and battery which are used for energy storage device. The prototype of this device is necessary to optimize the use of batteries and is designed to monitor and detect the battery status. By using the parameters of voltage and current, the battery status will be predicted. These parameters are managed by the BMS (Battery Management System). In addition to this, it will display the voltage and current, battery parentage of vehicle, status of the battery through LCD display. It will also alert you before the battery become drain. In case, there is no other charging station nearby and the primary battery is drained completely the system will automatically switch to the secondary battery with the help of relay.*

Keywords: Battery, BMS, Micro-controller, Motor, LCD Display, Voltage Sensor, Current Sensor, Relay, etc.

I. INTRODUCTION

A battery is an electrical energy storage system that can store a considerable amount of energy for a long duration. A battery management system (BMS) is a system control unit that is modeled to confirm the operationalsafety of the system battery pack. The primary operation of a BMS is to safeguard the battery. Due to safety reasons, cell balancing, and aging issues, supervision of each cell is indispensable. Moreover, BMS ensures the preset corrective measures against any abnormal condition at the system infrastructure. Besides, since the system temperature affects the power consumption profile, BMS also confirms the proper procedure to control the system temperature. In, authors discussed the battery management systems in electric and hybrid vehicles.

83.End of Palletization Combining Process by Prof. N.S. Shelke,, Prof. R.J. Kulkarni, Mayuri Sabale, Lokesh Raj, Ashutosh Galinde, Yadnesh Khanolkar

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End of Palletization Combining Process

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Abstract: *Palletizers move the item more rapidly than conventional manual tasks. With a palletizer, one machine can deal with numerous items all at once. Palletizers work with fewer work prerequisites and can be customized to rapidly take dreary actions. Truly difficult work undertakings, for example, stacking heaps of boxes or container cutting are disposed of with a palletizer. Right off the bat, two transport lines 1. Assuming the lift is mentioned, it is shipped off in the proper position. The lift then, at that point, moves to the dumping position. The container is moved onto the dumping belt when it arrives at the position.*

Keywords: Palletizers, HMI, Mapp Technology, Automatic, Conveyor belt, Boxlift, Simulation, Industrial iPhysics, Automation Studio, etc.

I. INTRODUCTION

Planned operations overall have been upset by beds. Since the 1920s they have had a significant influence on the planet market. That is until beds made it extremely direct. In front of beds, there were slips for a long time, they are comparative however without a deck. Forklifts gave a way to move weighty burdens. Beds simplified it and were quick to lift volumes of product and heap them.

Up until the 1950s, pallets were loaded manually. Believe it or not currently in 2020 there are some countries where manual palletizing processes of loading and unloading continue to be carried out by humans. These types of injuries can have serious, lasting physical effects, and cause workers to miss days of work for recovery.

Computerized palletizing was created during the 1970s and utilized a mix of transport lines and modern arranging gear to orchestrate normalized compartments into present examples. The framework was a somewhat noteworthy exhibition of designing capacity in a world that was still altogether relationship. The main disadvantage of these palletizers is they required the product to be indistinguishable and this was not all that adaptable.

84.Design and Development of Wireless Charging Station for E-Mobility using Solar Energy by Akanksha Undale, Ruturaj Ambildhok, Nupur Varkhede, Vaibhav Raut, Prof. Mr. Atul B. Ballal

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Design and Development of Wireless Charging Station for E-Mobility using Solar Energy

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Abstract: *Electric vehicle (EV) entrance is accelerating in an uncommon way, yet the deficient charging establishment to cover all regions impedes the improvement of the EV market. As of now, due to the little EV to internal combustion engine vehicle extent, presenting fixed charging stations (FCSs) at all areas isn't financially reasonable. Nonappearance of available FCSs assembles the arrive at pressure and by and large time, which are two critical limits to the immense extension gathering of electric vehicles. As a fix, flexible charging stations (MCSs) can expect a basic part in speeding up the technique engaged with pushing toward more EV gathering by giving charging organizations at EV clients' worthwhile times and regions. The survey uncovers that involving MCS organizations is a monetarily keen advancement for charging workplaces owners to additionally foster the utilization speed of charging gear and for the power organization to diminish the opposing effects of EV penetration. In Existing System Batteries channel Quickly. EVs are not so appealing to buyers even with various organization inspiration programs. Government sponsorship and obligation stimuli are one key to extend the part of the general business of EV today. Experts have been managing arranging one kind of flexible robots to deficiently or totally play out the assessment tasks of power transmission lines But, there is at this point an issue which really affects execution of examination robot-the steady working season of robot.*

Keywords: Electric Vehicle; Fast Charging, Mobile Charging Station; Off Grid Charging; Technical Benefit, etc.

I. INTRODUCTION

For road side assistance in order to abolish the Wireless Power transfer technology (WPT) which is used for infuriating is desirable by EV at any time anywhere at roadside, charging the vehicle becomes one of the easy tasks. For the mobile EV charging station system, the vehicle driver just needs to park their car/vehicle and can

85.Child Tracking System by Prof. Aparna Kare, Ms. Anjali Kshirsagar, Ms. Rutuja Bhandare, Ms. Vaishnavi Madole, Mr. Tushar Sontakke

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Child Tracking System

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Lecturer, Department of EE, NBNSSOE Ambegaon BK Pune, Maharashtra, India[1]
Student, B.E. Electrical Engineering, NBNSSOE Ambegaon BK Pune, Maharashtra, India[2,3,4,5]

Abstract: *The child tracking system includes a tracking system which is capable of detecting various dangersto the child (one or more than one). When a violation of child safety is detected a specific sensor in child module will produce a signal. This signal will be sent from these sensors to controller then through transmitter to parent module which will take the required decision and start the violation handling procedure. The parent can set the system to work indoor or outdoor and depending on this selection the parent module can calculate the distance at any moment between each child and their parent. Global Positioning System (GPS) is used for outdoor distance calculation while change amplitude of RF Signal is used for indoor distance calculation. Also, the parent can adjust the safety distance for each child and when it is overtaken the system will alarm both parent and the child. The hardware and software for this design is simple and can be implemented on a single chip microcontroller.*

Keywords: Global Positioning System, etc.

I. INTRODUCTION

Today, Technology is growing rapidly and providing all essential and effective solutions forevery requirement. Now a day's child security is an important area of concern. This model is developed to rectify the worries of parents regarding their child security. In this scenario, our system ensures maximum security and ensures live tracking for their kids because parent worries are genuine. This project proposed a model for child safety through smart phones that provides the option to track the location of their children as well as in case of emergency children is able to senda quick message and its current location via Short Message services. This proposed system is validated by testing on the Android platform.

86. Arduino Based Robotic Arm by Prof. A. B. Ballal, Mr. Aakash Nalwandikar, Mr. Pradip Kendre, Ms. Dipalee Dolas, Ms. Ashwini Mhase

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Arduino Based Robotic Arm

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Student, B.E. Electrical Engineering, NBNSSOE Ambegaon BK Pune, Maharashtra, India[2,3,4,5]

Abstract: *With the advancement of technology and innovation at its peak, fabrication of systems and designs akin to human skills are increasingly integrated into working task to cater the rapid surge of human needs. Such innovations are made with the hopes of making peoples live easier. This paper concentrates on the development of a robotic arm which is functional to do a pick and place operation and controlled by using a mobile application via Android phone. Designed to work on predetermined commands, the robot arm has the ability to move in a four-axis direction: upward, downward, left and right direction at a specified angle with 6 servo motors and according to the mobile app specifications. Designed and realized, the robotic arm control is through the use of a mobile application, via Bluetooth module, that has been programmed through Arduino UNO microcontroller.*

Keywords: Robotic Arm, Arduino UNO, Bluetooth Module, etc.

I. INTRODUCTION

Now a Days, Robotic arms had been mostly used for industry automation and operation in the hazardous environment. Many robotic controls are very expensive due to high-precision actuators and custom machining of components. We recommend that robotic control research can advance more rapidly if robotic arms of valuable performance were highly reduced in price. Increased affordability can lead to wider acceptance, which in turn can lead to faster progress. However, drastic cost reduction will require design trade off and compromises. There are number of dimensions on which robotic arms can be evaluated, such as backlash, payload, speed, repeatability, compliance, human safety, and cost. In robotics research, some of these dimensions are more important than others: for grasping and object manipulation, high repeatability and low backlash are important. Human-safety is difficult if the manipulator is to be used in close to the people. Arduino UNO A000066 is used as the brain of the robotic arm, force sensors are placed at the gripper for finding the force applied on the object, and potentiometers are used at the joints for detecting the position of the motor shaft

87. Design and Static Analysis of Piston Head Using Honeycomb Structure by Mr. Gautam Pise, Ms. Roshani Gujar, Mr. Praveen Kumar, Ms. Samruddhi Nimbalkar, Mr. Mahendra Parihar

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Design and Static Analysis of Piston Head Using Honeycomb Structure

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Abstract: *This project is focused on the stress distribution of the piston four stroke engines by using FEM. The main objectives are to investigate and analyze the thermal stress and maximum or minimum principal stresses. Vanishes stresses distribution on engine piston at the real engine condition during combustion process. The project describes the optimization techniques using finite element analysis technique (FEM) to predict the higher stress and critical region on that component. The stress concentration on the piston head, piston skirt and sleeve are reduced by optimization with computer aided design. CATIAV5 software the structural model of a piston will be developed. Furthermore, the FEM analysis is done using Computer Aided Simulation software.*

Keywords: FEA Analysis, Honeycomb Structure, Piston, etc.

I. INTRODUCTION

A piston is a component of engines. It is the moving component that is contained by a cylinder and is made gas tight by piston rings. In an engine, its transfer force from expanding gas in the cylinder to the crankshaft via a piston rod or connecting rod. As a main part in an engine, piston endures the cyclic gas pressure and the inertial forces at work, and this real working condition may cause the fatigue damage of piston, such as piston skirt wear, piston head or crown cracks and so on. The investigations denote that the greatest stress appears on the upper end of the piston and stress concentration is one of the mainly reason for fatigue failure. On the other hand, piston over heating-seizure can only occur when something burns or scrapes away the oil film that exists between the piston and the cylinder wall. Understanding this, it's not hard to visually why oils with exceptionally high film strengths are very desirable. Good quality oils will offer provide a film that stands up to the most intense heat and the pressure loads of a modern high output engine.

88.90 Degree Steering System by Prof. Suresh Bhaisare, Mr. Chaitanya Holey, Mr. Prajwal Chougule, Mr. Nishant Tatkari, Mr. Varad Joshi

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90 Degree Steering System

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Abstract: *The increase of the maneuverability when parking the vehicle is achieved by means of 4-wheel steering, meanwhile the increase of the driving stability at higher speeds is achieved through concordant steering front wheels. A disadvantage of this so-called passive steering system is that it operates even when driving in a straight direction when a single wheel of an axle hits surface irregularity. In this project we made a frame from a square bar. Arrange steering system at front and rear side. When the steering wheel is rotated, the bevel gear will be rotated. Bevel gear is used to transmit vertical motion into horizontal rotating motion. Bevel gear drive shaft provides the same rpm to pinion. Pinion will rotate the rack at the both end of the rack two pinion is meshed due to linear motion of the rack direct angular motion given to the end racks each of the end rack have the steering linkages are provided.*

Keywords: Bevel Gear, Pinion, Drive Shaft, etc.

I. INTRODUCTION

The increase of the maneuverability when parking the vehicle is achieved by means of 4- wheel steering, meanwhile the increase of the driving stability at higher speeds is achieved through concordant steering front wheels. A disadvantage of this so-called passive steering system is that it operates even when driving in straight direct.

II. LITERATURE SURVEY

1. "The Influence of a Four-Wheel Drive of a Working Machine on Some of Its Traction Properties" Author: Gustaw Tyroa, Lech Knapb, Zbigniew Zebrowskib and Jerzy Zebrowski Publication Year - 1995 This paper presents the results of theoretical analysis of all-wheel drive kinematic discrepancy influence on drawbar pull for wheeled working machines. The research project was undertaken to verify and confirm

89.Vibration Characteristics and Structural Behavior of Three-Wheeler Aluminum - Composite Square Chassis Using FEA and FFT Analyzers by Prof. Suresh Bhaisare, Mr. Rahul R Patil, Mr. Omkar A Patil, Mr. Saurabh R Patil, Mr. Mohseef Shaikh

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Vibration Characteristics and Structural Behavior of Three-Wheeler Aluminum - Composite Square Chassis Using FEA and FFT Analyzers

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Assistant Professor, Mechanical Engineering, NBNSSOE, Pune, India[1]

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Abstract: *Change in design of chassis, brings in change in vibration pattern and stress pattern will also change for impact loading conditions. This project to study the vibration characteristics and structural behavior of three-wheeler chassis configurations. To study the vibration aspects, with change in design, modal analysis is done. Front, side and rear impact simulations are carried out to obtain displacement and stress distribution patterns. Three-dimensional CAD model is designed using CATIA V5R20. Finite Element Analysis (FEA) software ANSYS version 19.0 is used to determine the Natural frequencies of three-wheeler chassis. Weight optimization of three-wheeler chassis by using aluminum - composite honeycomb structure. The conceptual design will primarily be manufactured using E-glass fiber and aluminum pipe. Modal analysis of modified three-wheeler composite - aluminum honeycomb chassis will be done using ANSYS workbench. Experimental validation of natural frequency of chassis will be done using FFT analyzer and impact hammer.*

Keywords: Chassis, Vibration Pattern and Stress Pattern, ANSYS, CATIA, etc.

I. INTRODUCTION

Automotive chassis is a skeletal frame on which various mechanical parts like engine, tires, axle assemblies, brakes, steering etc. are bolted. The chassis is considered to be the most significant component of an automobile. It is the most crucial element that gives strength and stability to the vehicle under different conditions. Automobile

90.Design & Development of Solar Electric Bicycle by Prof. Ravikant K. Nanwatkar, Abhijit Khairnar, Trupti Karke, Saket Edake, Vishwas Sathe

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Design & Development of Solar Electric Bicycle

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Abstract: *The rider of an E-bike can choose to rely on the motor completely, pedal and use the motor at the same time or pedal only (use as a conventional bicycle) The P.V. panels must be mounted and installed at the electric bicycle without compromising riding comfort ability. The concept of the solar energy is that a high torque motor will be put on the bicycle which will be generated by the solar energy. The solar energy will be absorbed by the portable solar panel to generate the power. The power that had been absorbed by the panel can be used directly by the motor if the power matches the power requirement. If not, the motor will use the power from a battery. When the bicycle was not in use during the day, the solar panel will charge the battery. The system will make bicycle operate more efficiently. So, this is where electric bicycle mainly came into picture. People need a green, health preserving, fast mode of transportation and E-bicycle gave it all. More than just being these things electric bicycles is also able to generate back electric power by the use of pedal power through regenerative mode of the motor used. There are many uses of an Electric Bicycle. Our Aim is to making a Cheapest Rate Electric Bicycle from Market Price.*

Keywords: E-mobility, Solar E-bicycle, lithium-ion Battery, Battery Pack, etc.

I. INTRODUCTION

Energy is one of the most vital needs for human survival on earth. We are dependent on one form of energy or the other for fulfilling our needs. One such form of energy is the energy from fossil fuels. We use energy from these sources for generating electricity, running automobiles etc. But the main disadvantage of these Fossil fuel is that they are not environmentally friendly and they are exhaustible. To deal with these problems of fossil fuels, we need to look at the non-conventional sources of energy. The increasing mobility has directly led to deteriorating traffic conditions, extra fuel consumption, increasing automobile exhaust emissions, air pollution and lowering quality of life. Apart from being clean, cheap and equitable mode of transport for short-distance journeys, cycling can potentially offer solutions to the problem of urban mobility. Many cities have tried promoting cycling particularly through the implementation of bike-sharing. Electric bikes use batteries as a source of energy; thus

91.Electricity Generation Using Footstep by Prof. P. D. Gharge, Safal Dagade, Abhishek Chauthe, Fardin Khan, Akash Humbade

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Electricity Generation Using Footstep

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UG Student, Mechanical Engineering, NBNSSOE, Pune, India[2,3,4,5]

Abstract: *Energy is the primary need for survival of all organisms in the universe. Everything that happens in the surrounding is the expression of flow of energy in one of the forms. But in this fast-moving world, the population is increasing day by day and the conventional energy sources are lessening. The extensive usage of energy has resulted in an energy crisis over the last few years. Therefore, to overcome this problem we need to implement the techniques of optimal utilization of conventional sources for conservation of energy. This project includes how to utilize the energy when a person moves on the tiles. Energy is the main concern of the present day. The production of electric current in a huge amount is the need of today's world. There are different methods used for the production of energy like conventional and non-conventional methods. Here we have represented the non-conventional method for the production of electric current. This non-conventional method is "Footstep power generation Mechanism" where the energy is produced by moving the human on a moving plate in which rack and pinion gear are used to convert the physical energy into mechanical energy and further, they have converted into electric energy by using the dynamo. By using this method, we have produced the energy to light up the bulb. We also represent the simulation of the footstep power generator using the ansys 17.0 software. By the results it seems we produce the power. This project is cost effective and easy to install in a populated area like railway station, bus stands and in shopping malls. Our project is cost effective and easy to implement.*

Keywords: Energy, Footstep Power Generation Mechanism, ANSYS, etc.

I. INTRODUCTION

For an alternate method to generate electricity there are number of methods by which electricity can be produced, out if such methods footstep energy generation can be an effective method to generate electricity. Walking is the most common activity in human life. When a person walks, he loses energy to the road surface in the form of impact, vibration, sound etc., due to the transfer of his weight on the road surface, through foot falls on the ground during every step. This energy can be tapped and converted in the usable form such

92.Smart Braking System by Mr. Omkar Ghogare, Mr. Sanket Attarde, Mr. Madhav Biradar, Prof. K. S. Mahajan, D. H. Burande

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Smart Braking System

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Abstract: *Now-a-days accidents are mostly caused by delay of the driver to hit the brake or by the negligence by the driver. The project aims to develop a prototype system that offers a collision functionality in production vehicle, a system which can operate automatically with the help of high-profile sensors based on relay circuit and some changes in traditional braking system and apply the brake automatically in emergency situation. The resulting system can achieve measurements with high accuracy and improved short distance measurement also. This distance measurement is used to control smart braking system for safety applications. The brain of the system part can be developed on Arduino Nano microcontroller. The Ultrasonic sensors are the eyes of this system, which are cheaper and the system comprises of a less demanding hardware. The braking is done with the help of 3/2solenoid valve which actuates brakes and clutch.*

Keywords: Ultrasonic Sensor, Processor (Arduino Uno), Intelligent Braking System (IBS), Antilock Braking Systems (ABS), Microcontroller, etc.

I. INTRODUCTION

Braking systems of commercial vehicles were always given the highest importance concerning safety issues and in particular active safety. Inappropriate braking of these vehicles may cause heavy accidents due to relatively longer stopping distances and higher energy output of brakes particularly in the case of vehicle combinations. The traditional medium used for brake system (compressed air) can be now controlled with the speed and precision offered by modern electronic abilities. Smart Braking System introduced in commercial vehicles providing rapid brake response and release for every single wheel therefore ensuring safety. The extremely rapid response time provided by the electronic control can be used for crucially shortening the braking distance by introducing advanced control of braking system operation. Such a complex task imposed to the control of braking system cannot be based on the driver abilities and need to be done independently of the driver.

The advanced strategy for the braking force Management, proposed here, is based on Smart controlling of the braking forces distribution between the front and rear axle of power driven vehicle and/or between towing trailer

93.Smart Irrigation System Using IOT by Prof. K. S. Mahajan, Mr. Sushant S Nagare, Mr. Lalit R Lokhande, Mr. Akshay S Nawale, Mr. Rutvij P Mandwadkar

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Smart Irrigation System Using IOT

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Abstract: *India is the second-largest irrigated country, but only one-third of the area is irrigated. It is due to uncertain rainfall and lack of water. Most of the areas need canals to be built for irrigation without depending on the rainfall. The utilization of water is very important for irrigation. The implementation of IoT agriculture starts with intelligent irrigation for the majority of fields. Optimizing the water schedule and quantity of water helps us to save water, money, and have the best crop on the field. Sensor-based IoT technology gathers soil moisture, temperature, humidity data, and transmits this information to farm irrigation systems from sensors. A platform responds to these signals and the drip irrigation switches on as soon as there is insufficient water in the soil. Our paper is designed to overcome the problem of irrigation by reducing the usage of water while watering the plants. The proposed system uses sensors like a soil moisture sensor, temperature, and humidity sensor. The microcontroller is used to send data to Blynk and Thing Speak. Blynk application is used to monitor the data, and Thing Speak cloud is used to store the data. This system provides a feasible monitoring platform and automates the irrigation process. This leads to a transition from traditional farming to modern farming. Over 75 years since independence, India has made immense progress towards agriculture.*

Keywords: IoT, Irrigation, Water, Sensors, Thing Speak, etc.

I. INTRODUCTION

Agriculture is the major source of income for the largest population in India and is major contributor to Indian economy. However, technological involvement and its usability have to be grown still and cultivated for agro sector in India. Although few initiatives have also been taken by the Indian Government for providing online and mobile messaging services to farmers related to agricultural queries and agro vendor's information to farmers. Based on the survey it is observed that agriculture contributes 27% to GDP, and Provides employment to 70% of Indian

94.Power Generation using Gym Equipment by Mr. Rajshikhar Roat, Mr. Abhishek Tupe, Mr. Gaurav Satpute, Mr. Rohit Purbia, Dinesh H. Burande

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Power Generation using Gym Equipment

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Department of Mechanical Engineering, NBN Sinhgad School of Engineering, Pune[1,2,3,4,5]

Abstract: *As the global need for energy grows, there is a pressing need to find new technologies for energy transmission and generation, particularly those that are less environmentally harmful. Human power has potential use in emerging places where electric power is either unavailable or too expensive. There is also the untapped potential for harnessing human power at most fitness facilities. Nowadays, spin bikes are extensively used for exercise in both the gym and at home. The drive for gyms around the country to capture this energy and convert it into usable power that can be supplied back into the grid. We are creating electrical power in this project using a non-traditional way of just pulling up and down using Gym equipment. Pull up pull down is a non-conventional energy source that converts mechanical energy into electrical energy. The conversion of force energy into electrical energy is the focus of this study. Pull-ups and pull-downs are a good source of energy, with 95 percent of the effort put into them converting to energy. In the gym If power is not available for an extended period of time, AC power is used for our gadget, which is stored in the battery, resulting in a significant output. Exercise is then performed, and electricity is created in the battery.*

Keywords: Gym Equipment, Electrical Energy, etc.

I. INTRODUCTION

In this generation, we require uninterruptible power for factories, hospitals, universities, and other places where continuous labour is required on a daily basis. The majority of these settlements do not have access to power. Technology is evolving at this time, and power is playing an increasingly significant role in the technical sector. Because nearly all technologies rely on the use of electricity, the proportion of electricity in total primary energy supply is rapidly growing. We squander energy at the gym when exercising on the cycle and treadmill, but if we use that energy to generate electricity and build a device to generate electricity, we can disperse the device in rural regions and many other places where power is required. Also, by just pulling up and down, you may generate electrical power in an unconventional way.

95.Development of In-Pipe Robot for Cleaning and Inspection by Prof. G. V. Devke, Mr. Ameya Bidwe, Mr. Shubham Ankush, Mr. Vilas Bodke, Mr. Pranchal Bhingardeve

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Development of In-Pipe Robot for Cleaning and Inspection

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UG Student, Mechanical Engineering, NBNSSOE, Pune, India[2,3,4,5]

Abstract: *The aim of the project is to design a pipe cleaning and inspection robot for industrial applications. This is going to use a very simple mechanism for cleaning the internal area of the pipe with changing diameters. The design is focusing on developing a bevel gear mechanism which is able to clean and translate the robot body into the pipe effectively. Here we are going to use only a single DC motor for both cleaning and locomotion in the pipe. The inspection of the pipe is by using the ultrasonic sensor. The ultrasonic sensor is going to give the distance between the obstacle and the robot. According to the distance measured we are going to know about the bends and joints. The ultrasonic sensor is also going to give information regarding the waste materials accumulated in the pipe.*

Keywords: Cleaning Device, Robot, Pipeline, Engineering Design Process, etc.

I. INTRODUCTION

Plumbing networks, like any other structure, are vulnerable to damage from various sources: thermal cycling (A especially when ground freezes around the pipe), mechanical impacts vibration, corrosion, etc. pipes can feel or clog with debris, sediments as with the zebra mussel infestation in the north east United States, living organisms. Smaller fluid systems, such as those serving residences may be repaired with easy, low-cost methods in many causes it may be best simply replace the pipes. Operators of larger, complex systems, however frequently need some better way of dealing with plumbing failures. For instance, it is not cheap to replace large diameter pipes: it is even worse if hundreds of meters of pipelines must be unearthed to determine which section is 0. responsible for a drop in pressure. Preventative inspection can be another difficult requirement of industrial users: critical

96. Fabrication and Experimental Analysis of Lithium-Ion Battery Based Smart Electric Bicycle by Prof. Ravikant K. Nanwatkar, Rohan K. Awasare, Omkar G. Tagade, Pranay K. Kamble, Rushikesh D. Jogdand

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Fabrication and Experimental Analysis of Lithium-Ion Battery Based Smart Electric Bicycle

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Abstract: *Building a Project plays a vital role in improving skills as well as in boosting career opportunities for an engineer. Designing and building any machine comes with its share of success and failures. This is a way of brainstorming, creating new ideas which help in betterment of our future and also opens to other new ideas. The Electric vehicle has been popular for the last two decades and now its market is also booming in India. Bicycle being the greenest mode of transportation comes with a drawback that cannot be ignored in this fast-paced world. Transportation is now greeted as time saving process. So, this is where electric bicycle mainly came into picture. People need a green, health preserving, fast mode of transportation and E-bicycle gave it all. More than just being these things electric bicycles is also able to generate back electric power by the use of pedaling of wheels through regenerative mode of the motor used. Our Aim is to making a Cheapest Rate Electric Bicycle from Market Price, which will be run on li-ion battery as an energy storage device. The work includes simulation of electric vehicle using MATLAB Simulink to evaluate the rate of working parameters i.e., state of charge, voltage and current w.r.to time and to evaluate the distance covered related to the velocity and acceleration of the vehicle. Further the same results are validated with experimental results after fabrication of the proposed e-bicycle. This project will be a novel solution for the persons whose daily distance of travelling is not more than 10 km of range and efficient reuse of scrap old cycles, also this project includes concept of generating electrical energy through mechanically paddling, thus this project is good solution for exercise and generated energy can be further used for small scale applications like mobile charging of glowing the bulb in night mode.*

97.Design, Manufacturing and Vibration Analysis of Defects in Spur Gear Box by Prof. Ravikant K. Nanwatkar , Miss. Ankita P. Thakurdware, Miss. Prajakta S. Ingole

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Design, Manufacturing and Vibration Analysis of Defects in Spur Gear Box

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Abstract: *Gears are important element in a variety of industrial applications such as machine tool and gearboxes. An unexpected failure of the gear may cause significant economic losses. For that reason, fault diagnosis in gears has been the subject of intensive research. Vibration signal analysis has been widely used in the fault detection of rotation machinery. The vibration signal of a gearbox carries the signature of the fault in the gears, and early fault detection of the gearbox is possible by analysing the vibration signal using different signal processing techniques. In this dissertation vibration analysis of spur gear box is done by FEA and experimental method. Design of spur gear box is done on basis of given working parameters using SI units and design data book and some design parameters are used for fabrication. During initial phase of project process capability analysis is done on existing gear box. Further analysis is done by inducing defects such as decrease in height of gear tooth and crack at tooth base. Their performances were checked on basis of noise analysis. An attempt is made to decrease the stresses in gear tooth by inducing cavities of various shapes at various locations using FEA. The performance of gear box is tested at 0kg, 3kg, 6kg, 9kg and speed for 1400 rpm. Frequency measurement at working loading condition is performed using FFT analyser. Natural frequencies at different loading condition are determined by using FFT analyser. The experimental results obtained by above testing are validated with finite element analysis and the results found satisfactory and within the range.*

Keywords: Vibration, Fault Diagnosis, Condition Monitoring, Gearbox, etc.

98.Design & Manufacturing of Power Generation by Using Gear Mechanism by Prof. K. S. Mahajan, Mr. Akshay Adling, Ms. Radhika Wadhe, Mr. Vidhit Kamble, Mr. Rushikesh Dhume

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Design & Manufacturing of Power Generation by Using Gear Mechanism

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Assistant Professor, Mechanical Engineering, NBNSSOE, Pune, India[1]

UG Student, Mechanical Engineering, NBNSSOE, Pune, India[2,3,4,5]

Abstract: *In this project we are generating electrical power as a non-conventional method by simply running on the train in the foot step. Non-conventional energy system is very essential at this time to our nation. Non-conventional energy using footsteps needs no fuel input power to generate the output of the electrical power. This project uses simple drive mechanisms such as rack and pinion assemble and chain drive mechanism. For this project the conversion of the force energy into electrical energy. The control mechanism carries the rack & pinion, D.C generator, battery. We have discussed the various applications and further extension also. So, this project is implemented at all steps, the power generation is very high. The initial cost of this arrangement is high.*

Keywords: CAD, Principal, Power Transition, Calculation, etc.

I. INTRODUCTION

For an alternate method to generate electricity there are number of methods by which electricity can be produced, out if such methods footstep energy generation can be an effective method to generate electricity. Walking is the most common activity in human life. When a person walks, he loses energy to the road surface in the form of impact, vibration, sound etc., due to the transfer of his weight on road surface, through foot falls on the ground during every step. This energy can be tapped and converted in the usable form such as in electrical form. This device, if embedded in the footpath, can convert foot impact energy into electrical form.

99.Automatic Engine Valve Cleaner by Prof. S. A. Gurav, Mr. Sumit Deshmukh, Mr. Ketan Dimble, Mr. Shubham Patel, Mr. Mayur Yadav

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Automatic Engine Valve Cleaner

Prof. S. A. Gurav[1], Mr. Sumit Deshmukh[2], Mr. Ketan Dimble[3], Mr. Shubham Patel[4], Mr. Mayur Yadav[5]

Assistant Professor, Mechanical Engineering, NBNSSOE, Pune, India[1]

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Abstract: *Automobile maintenance is a significant part of the automobile industry, as well as a significant source of revenue for the company. Internal combustion engine maintenance is now widely recognised as a critical component of automotive maintenance, and the valve lapping method described in this thesis is performed during IC engine maintenance. The existing procedures for valve lapping employed in most vehicle maintenance organizations are ineffective and waste a lot of time. The 'Valve Lapping Machine for Internal Combustion Engines' is a machine that is supposed to solve these issues by reducing the amount of time that humans are involved in the process. The thesis consists of the background in designing the machine, methodologies used, results obtained by data analysis in order to optimize the design and design of the valve lapping machine.*

Keywords: Valve Lapping; Engine Valves; Cylinder Head, etc.

I. INTRODUCTION

We developed an Automatic Engine Valve Cleaner for this project. Valve lapping, or the act of making a good fit between engine valves and the matching valve seat area in the IC (internal combustion) engine head (cylinder head), is a work that requires extreme precision. The importance of a good sea is that it prevents the air/fuel mixture (in petrol engines) or air (in diesel engines) from flowing into the combustion chamber, as well as the exhaust gas from the combustion chamber from flowing to the exhaust manifold until the correct time. A good seat also avoids compression leaks. If any of the aforementioned scenarios occur, the engine's efficiency will plummet by large percentages. So as this is a very important task in IC engine maintenance, extra attention is given to this particular task by technicians. This process of valve lapping is typically done using a valve lapping stick or a power tool.

100. Regenerative Braking System for Electric Vehicles by Prof. R. K. Nanwatkar, Mr. Krushna Mane, Mr. Mahesh More, Mr. Ajinkya Jagadale, Mr. Vyankatesh Joshi

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Regenerative Braking System for Electric Vehicles

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Abstract: *In this project we are using this regenerative breaking concept to apply brakes to vehicle and creating electrical energy simultaneously by using alternator. Regenerative braking is an energy recovery mechanism that slows a vehicle or object by converting its kinetic energy into a form that can be either used immediately or stored until needed. In the project we are applying this concept to one wheel which is rotating. Its mechanical rotary energy is converted into the electrical energy. This electrical energy can be stored and utilized in critical situations or to run the internal components present in the car. To develop and design this project we are using CATIA V5 CAD software.*

Keywords: Energy, Stored, CATIA V5 CAD, etc.

I. INTRODUCTION

Regenerative braking is an energy recovery mechanism that slows a vehicle or object by converting its kinetic energy into a form that can be either used immediately or stored until needed. In the project we are applying this concept to one wheel which is rotating. Its mechanical rotary energy is converted into the electrical energy. This electrical energy can be stored and utilized in critical situations or to run the internal components present in the car.

II. LITERATURE SURVEY

1. Chengqun Qiua,, Guolin Wang, Mingyu Meng, Yujie Shen, "A novel control strategy of regenerative braking system for electric vehicles under safety critical driving situations" Volume 149, 15 April 2018, Pages 329-340 This paper mainly focuses on control strategy of the regenerative braking system of an electric vehicle under safety critical driving situations. With the aims of guaranteeing the electric vehicle stability in various

101.Solar Powered Grinding Machine with Flywheel by Prof. R. B. Mali, Bhagyesh Deore, Ram Girhe, Tejas Karange, Pradip Naiknavre

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Solar Powered Grinding Machine with Flywheel

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UG Student, Mechanical Engineering, NBNSSOE, Pune, India[2,3,4,5]

Abstract: *The machine we designed and fabricated is used for grinding any shape of object like circular, rectangular, and polygon. In our project grinding machine is used to grinding the different types of material. The grinding machine is rotated by the single-phase induction motor. Hence our project namely solar powered grinding machine is a special type of machine. According to the type of material to be grind, the grinding tool can be changed. This project gives details of grinding various shapes and sizes of components. This machine can be widely applied in almost all type of industries. By varying the pulley sizes, I can get a high-end speed of over 10,000 rpm if needed. The only change I would make is to have a totally enclosed motor to keep out the grit. The power applied to grinding wheel act as flywheel along with power recovery by generator (alternator) coupled to the main shaft, rotating at high speed. Reduces the power requirement to very low. This effect is the advantage that we have proposed to industrial use. The power applied to the motor is solar, so the conservation of energy with use of clean energy.*

I. INTRODUCTION

Solar and kinetic energy recovery system and it refers to the mechanisms that recover the energy that would normally be lost when reducing speed by loading of grinding machine. The energy is stored in a mechanical form and retransmitted to the grinding wheel in order to help the acceleration. Electric vehicles and hybrid have a similar system called regenerative brake which restores the energy in the batteries. The system device recovers the kinetic energy that is present in the wasted in non-using and overloading condition at also normal situation created by the grinding process. It stores that energy and converts it into power that can be called upon to boost acceleration.

There are principally two types of system - battery (electrical) and flywheel (mechanical). Electrical systems use a motor-generator incorporated in with belt transmission which converts mechanical energy into electrical energy and vice versa. Once the energy has been harnessed, it is stored in a battery and released

102.Design and Fabrication of Four-Wheel Steering System by Prof. S. D. Bhaisare, Sahil S. Nadaf, Akash A. Khavare, Adesh C. Malunjkar, Vijay T. Hingale

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Design and Fabrication of Four-Wheel Steering System

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Abstract: *Automobile industry is one of the most important segments for a country's growth. India facing its own challenges due to its huge and varied transport sector. These challenges may be overwhelmed by using energy efficient advancements with the customer focused approach. The driver always driving the automobile with sophisticated technologies and should feel very comfortable. Automobile moving higher than the cruising speeds stability of the vehicle is the key factor. In four-wheel navigation system the tail wheels turning opposite to the forward-facing wheels while vehicle moves at high speeds instability chances are more. To avoid this instability rear wheels follows the same track of the forward-facing wheels while tuning of the all-wheel steering system. This paper focusing light on to the difficulty faced when all wheel steering system taking a turn in a very confined space. By switching from two-wheel steering to four-wheel steering owing to this the driver on the way to make turns in small radius. It also laidback for parallel parking and maneuvering the vehicle quite with no trouble on highways. In command to succeed this, a mechanism established with the two bevel gears and intermediary shaft, which transfer 100% rotating force as well turns tail wheels in out of period. The spiraling radius of the automobile with two steering wheel system is 4400 mm after switching to four-wheel steering system radius is 2596mm only. Hence, radius reduced to 1804 mm.*

Keywords: Steering System, Trundle, Navigating, Bevel Gears, Torque and Shaft, etc.

I. INTRODUCTION

Recent trends show that researchers have moved toward making vehicle more comfortable and secure focusing more on ergonomics and safety. One of the most ignored areas remains the steering system, which, control

103.Test on CRDI Diesel Engine Using Biodiesel as an Alternative Fuel by Prof. R.A. Solunke, Mr. Abhishek Shekde, Mr. Shubham Mane, Mr. ShriKrishna Kadam, Mr. Suraj Lokhande

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Test on CRDI Diesel Engine Using Biodiesel as an Alternative Fuel

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Abstract: *In this research work an experimental investigation of biodiesel blends on combustion, performance and emission characteristics of a direct injection (DI) CRDI Diesel Engine is carried out. The blends are prepared at different proportions and fuel properties such as calorific value, viscosity, flash point and fire point, cloud point, pour point of biodiesel (B), diesel (D), biodiesel-diesel (BD) blends are determined. The engine test is conducted at different speeds and loads. From the results obtained for fuel properties we can observe that the flash, fire and pour point, mechanical efficiency and thermal efficiency are decreasing by increasing the percentage of sunflower biodiesel in BBD blends. It is also observed that the performance parameters such as brake thermal efficiency (BTE) and exhaust gas temperature increases with increase in the proportion of butanol in BBD blend. However, the brake power (BP) decreases with increase in the proportion of sunflower and waste cooking oil in BBD blend. The increase of butanol in BBD blends also influences emission characteristics such as carbon monoxide (CO), hydrocarbon (HC) and oxides of nitrogen (NOx). The use of biodiesel as an alternative to petroleum diesel has become prevalent in the past two decades due to the depletion of fossil fuels. It is a renewable source of energy as edible and non-edible plants can be grown at will. But taking into consideration the ever-growing population the use of vegetable oil in excess could result in starvation.*

Keywords: Diesel Engine, Butanol, Biodiesel, BBD Blends, Emission Characteristics Alternative, Edible, Non-edible, Lubrication, Mechanical Efficiency, Diesel, Ethanol, etc.

104.Transient Thermal Analysis of Exhaust Manifold for Multi Cylinder Engine by Prof. Onkar Dhumal, Mr. Pranav Butale, Mr. Abhishek Tarkase, Mr. Mayur Kshirsagar, Mr. Kalpesh Kale

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Transient Thermal Analysis of Exhaust Manifold for Multi Cylinder Engine

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Abstract: *Exhaust manifold is an automotive component generally made up of cast iron. It collects combustion gases from multiple cylinders and directs them into the collector exhaust system. Due to complex loading i.e., mechanical load and thermal loading, it becomes necessary to find out stresses in the component. The thermal cycle load includes cold start when the vehicle is starting, at full load and a cooling when engine has stopped. Any circumstance that produces an isothermal loading led to failure of the component. The thermostatic analysis of the structure has been performed on the single runner of the exhaust manifold to check the high temperature strength. In simulation, exhaust gas temperature is implemented for the model as thermal boundary condition and pressure is applied. Stresses and temperature distribution of grey cast iron and stainless steel have compared with each other. The aim of the work is to analyze the performance of the engine exhaust manifold. Because the engine exhaust manifold is a significant factor in the engine performance. In this work the manifold design is prepared with the help of CAD software and it is analyzed by the ANSYS.*

Keywords: Exhaust Manifold, ANSYS, Mechanical Load and Thermal Loading, etc.

I. INTRODUCTION

The mounted exhaust manifolds on top of the cylinder head of the engine collect the gas exhausted from the engine, and sends it to a catalyst converter. The performance of the Engine depends upon the design of the exhaust manifold. Principally, the efficiency of the emission and fuel utilization are strongly related with the exhaust manifold. The rising and falling temperature causes fatigue due to less thermal efficiency of manifold leading to the fracture. A thorough attention has been determined on the low cycle thermal fatigue by accelerated laboratory tests and by FEM or analytical methods for evaluating life performance of the exhaust manifold under a cyclic thermal loading.

105.Thermoelectric Refrigerator Using Peltier Effect by Prof. V. K. Kulloli, Rajat Kuche, Mayur Patil, Shivam Pagar, Ramashri Valunj

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Thermoelectric Refrigerator Using Peltier Effect

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Abstract: *This project is a demonstration of an eco-friendly methodology for the implementation of a solar powered thermoelectric refrigeration system. Solar energy is the most abundant and renewable source of energy in the environment, and hence it is used in our project. In conventional refrigerators, moving parts or rotating parts like compressor, expansion valve, coolants etc. are involved which leads to some vibrations and noise. Even coolants are not eco-friendly and much more costly. But in a thermoelectric refrigeration system, these mechanical parts and coolants get eliminated and a thermoelectric module is used instead. Still there are many rural areas where people have to deal with electricity problems, this module will be very helpful to them as it runs on solar energy. Food items and other different required things can be stored in it. Thermoelectric module consists of peltier plates and a heat sink module which will be placed on each side of the peltier device. We are using a microcontroller for this project to detect the temperature and display it to the user.*

Keywords: Microcontroller, Peltier, Refrigerator, Sensors, etc.

I. INTRODUCTION

Due to the difficulty in disposal of Chlorofluoro carbon (CFCs) and Hydro Chlorofluoro carbons (HCFCs), conventional sources are being used so as to decrease the environmental degradation. As mentioned in the past years, fluoro carbons were used in the refrigerators. Use of these kind of refrigerators are forbidden as this led to derogation of ozone layer. Moreover, the problem regarding environment is piling up in recent years. Presently the energy saving strategy is one of the top most priority of the world. In particular, the sector of cooling having a heavy influence on the total electrical energy consumption and hence need to be optimized so as to increase the overall performance. Solar energy being abundant in nature, thermo electricity can be used in the generation of

106.Design and Analysis of Pivot Spray Irrigation System by Mr. Gautam Pise, Mr. Shubham Javle, Mr. Atharwa Dabke, Mr. Rishikesh Pawar, Mr. Hrishikesh Pawar

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Design and Analysis of Pivot Spray Irrigation System

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UG Student, Mechanical Engineering, NBNSSOE, Pune, India[2,3,4,5]

Abstract: *This project is focused on evaluating the performance of pivot spray irrigation systems. Balancing the continuous supply of water is the main purpose of designing the pivot irrigation system. Irrigation is the backbone of agriculture, irrespective of size of holding. Tremendous efforts have been made in the past to increase the irrigated area through construction of a large number of surface irrigation projects and through ground water resources since the first five-year plan. CAD designing of the pivot spray irrigation system will be done using CATIA V5 software with different parts and assembly of the parts. Vibration analysis of pivot spray irrigation systems will be done using ANSYS 19 software.*

Keywords: Pivot Irrigation System, FEA, CAD, Analysis, CAE, etc.

I. INTRODUCTION

Spray irrigation is a modern and commonly-used system of irrigating, but it also requires machinery. This system is similar to the way you might water your lawn at home - stand there with a hose and spray the water out in all directions. Large scale spray irrigation systems are in use on large farms today. The systems can simply be long hoses with sprinklers along the length or a center-pivot system that traverses a circle in the fields. This picture shows a simple sprinkler irrigation system - it is one of the less-efficient models because a large part of the water shot into the air evaporates. Centre-pivot irrigation (sometimes called central pivot irrigation), also called water-wheel and circle irrigation, is a method of crop irrigation in which equipment rotates around a pivot and crops are watered with sprinklers.

A circular area cantered on the pivot is irrigated, often creating a circular pattern in crops when viewed from above (sometimes referred to as crop circles, not to be confused with those formed by circular flattening of a section of

107.Design and Development of Small Sized Groundnut Oil Extracting Machine by Prof. Govind Devke, Mr. Ganesh Anandas, Mr. Vishal Narwa, Mr. Rishikesh Konde, Mr. Dhruv Sharma

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Design and Development of Small Sized Groundnut Oil Extracting Machine

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Abstract: *Present methods of oil extraction are inefficient, time consuming and costly due to the refining process involved. There are many issues where it is not possible to know adulteration which causes health related problems. Also, it requires external temperature above 100◦C to extract oil. This high temperature reduces the quality of oil which is not suitable for human health. The aim of this project primarily focuses on maintaining/ improving the quality of oil which is extracted from groundnuts. To achieve this purpose, it will be necessary that compact, portable, easily operated, less time consuming and low-cost machines should be developed. At the same time the machine should maintain below specified temperature to avoid nutritional losses. Hence it is today's need to have an oil extracting machine which can be used at home by maintaining oil quality efficiently in a cost effective and adult – free way for a healthy life. Considering the above problems for this project it was decided to develop an oil extracting machine which will maintain the nutritional value and will be small in size & economical. The main aim focuses on maintaining the temperature below 70◦C. based on this a machine will be developed and the output (oil temperature) will be checked to find the quality of oil.*

Keywords: Intrusion, Dataset, SDN, Network Traffic, Network Security, SDN Security, etc.

I. INTRODUCTION

The conventional traditional method of extracting oil from raw materials is stressful, in efficient and takes longer time which effect on the cost of purely refined oil in market. Indian agricultural resources are vast and progressive harnessing of there- source will result in substantial improvement in output. Groundnuts are generally economic

108. Integrated Brake Safety System Ensures Maximum Vehicle Safety through Combination of ABS and EBA Systems of Braking by Prof. G. V. Pise, Mr. Kaushal Pathare, Mr. Viraj Dendge, Mr. Prathamesh Shukla, Mr. Omkar Deshmukh

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Integrated Brake Safety System Ensures Maximum Vehicle Safety through Combination of ABS and EBA Systems of Braking

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Abstract: *Anti-lock braking system (ABS) is an automobile safety system that allows the wheels on a motor vehicle to maintain tractive contact with the road surface according to driver inputs while braking, preventing the wheels from locking up (ceasing rotation) and avoiding uncontrolled skidding. It is an automated system that uses the principles of threshold braking and cadence braking which were practiced by skillful drivers with previous generation braking systems. It does this at a much faster rate and with better control than a driver could manage. ABS generally offers improved vehicle control and decreases stopping distances on dry and slippery surfaces for many drivers; however, on loose surfaces like gravel or snow-covered pavement, ABS can significantly increase braking distance, although still improving vehicle control. Many accidents caused by ignoring right-of-way, driving on the wrong side of the road, inappropriate speed, insufficient distance from other vehicles and so on might have been prevented had the vehicles been able to brake faster. Studies have shown that many drivers do not apply the brakes sufficiently in emergency situations due to lack of experience. That means that the greatest possible braking effect is not attained because the drivers did not press the brake pedal hard enough. Therefore, the brake assist system was developed to support the driver in critical braking situations. Emergency brake assist (EBA) based on the speed and force with which the brake pedal is pressed, the brake assist system detects an emergency. The brake assist system increases the brake pressure until the ABS regulation intervenes to prevent the wheels from locking. This way the greatest possible braking effect can be achieved and the brake path can be shortened significantly. The system comprises of the brake lever which when operated at first operate the conventional solenoid braking of ABS type i.e. The brake will cycle between "ON" & "OFF" condition to prevent the skidding of the vehicle, preventing accidental locking of braking owing to excessive heating as a result of*

109. Design and Weight Optimization of 4Wheeler Differential Case Using FEA and UTM Strain Gauge Technique by Prof. S. D. Bhaisare, Mr. Akshay T. Pawar, Mr. Sumit T. Bopche, Mr. Akash J. Pawar, Mr. Chetan T. Aher

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Design and Weight Optimization of 4Wheeler Differential Case Using FEA and UTM Strain Gauge Technique

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Abstract: *In this advanced technological era, lightweight design for fuel efficiency and environmental friendliness is essential for both conventional and hybrid electric vehicles (HEVs), without sacrificing the durability which is an important design factor for vehicle safety. To achieve these objectives, reduction of the structural mass of the full vehicle plays a vital role. The scope of this project is to describe design methodologies for the vehicle differential case applied to achieve light weight and to ensure product life. Optimization of a vehicle differential case done in this study shows that a weight reduction of up to 6% is possible without affecting the safety of the component. The manual optimization methodology used for this process can be implemented for any other cast component. In addition to this, a comparative study is performed of topology optimization using Ansys software on a control arm considering static loading conditions. Three-dimensional CAD model of 4-wheeler differential case is designed using CATIA V5R20. Finite Element Analysis (FEA) software ANSYS Version 19.0 is used to determine the total deformation and equivalent stresses, strain in a 4-wheeler differential case. For weight optimization the 4-wheeler differential case topology optimization module will be used. Experimental investigation will be done by strain gauge technique and UTM. Comparative analysis of FEA and Experimental will be done for validation of work. Conclusion and future scope will be suggested.*

Keywords: Weight Optimization, Reverse Engineering, 3D Scanning, Casting Allowance, etc.

110. Thermal and Transient Analysis of Boiler Chimney to Improve the Performance and Efficiency by Prof. Ramesh B. Mali, Mr. Mohit Mantri, Mr. Pratik Pharande, Mr. Dnyanesh Patil, Mr. Yogesh Patil

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Thermal and Transient Analysis of Boiler Chimney to Improve the Performance and Efficiency

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Abstract: *A boiler is an essential part of industrial power sector which works continuously for many days. This creates many flue gases which send to the surroundings through chimney. A chimney is an integral part of boiler system which provides ventilation for the hot flue gases while boiler working. Characteristic problem of chimneys is that, they develop deposits of creosote on the walls of the structure when used with wood as a fuel. Deposits of this substance can interfere with the airflow and more importantly, they are combustible and can cause dangerous chimney fires if the deposits ignite in the chimney. Heaters that burn natural gas drastically reduce the amount of creosote buildup due to natural gas burning. Disconnected or loose chimney fittings caused by corrosion over time can pose serious dangers for residents due to leakage of carbon monoxide into the home. Thus, it is recommended and, in some countries, even mandatory that chimneys be inspected annually / monthly and cleaned on a regular basis to prevent these problems. While cleaning it causes shut down of whole plant during cleaning which comes with the economic costs due to loss of production. The Main Objective of this project work is to survey and analysis of causes and remedies major type of corrosion i.e., fouling in industrial boiler chimney. Two modifications have been suggested, first divide the chimney cross section in two halves so that one will be used for operation while other for cleaning. This will induce certain pressure variation on surface of section plate and chimney. Second performing transient analysis for flue gases and to evaluate time taken to pass to surroundings. The mechanism proposed here if velocity of flue gases increased it will reduce the time taken by flue gases to contact with boiler*

111.Automated Portable Hammering Machine by Prof. Govind Devke, Mr. Vinayak Sonawane, Mr. Arjun Patare, Mr. Akash Kolte, Mr. Shubham Kamble

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Automated Portable Hammering Machine

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Abstract: *This paper discusses cad modeling, design and analysis of automatic hammering machines. Our goal for this paper is to design and fabricate an automatic hammering machine. And for this, we have calculated the maximum torque, impact velocity for hammering, torque force and also shear failure in the bolt joint. In our project we are using torque force to perform various manufacturing operations in industries like riveting, upset forging, punching etc. Also, time required for operation is less so it is useful in mass production. In this project we have prepared a solid model of project assembly by using Solid works software. The snapshots of every component are attached in the file in the design section. The model consists of a motor, shaft, hammer, jigs and fixtures. From this we fabricate a conceptual model of an automatic hammering machine. Automatic portable hammering machine is one of the new techniques proposed in design in order to achieve instant Hammering accurate repetition and impacting, fast hammering process. It should be user friendly without any risk and worker manual Effort can be used easily automatically. In the past, labor used a hammer to drive nails, fit parts, break apart and more. It would be used manually with more effort and manpower used in the process. But nowadays it is possible to make the process easy by inventing automatic Hammering. There are very clear benefits that the industry sees while using automated systems. These advantages can be very beneficial in the long run. We assure that our products are one of the best and they are long lasting.*

Keywords: Instant Hammering, Connecting Rod, Shaft, 16V Battery, Disc, etc.

I. INTRODUCTION

This project is intended to design and manufacture a simple rotor test rig, where rotor faults can be inserted and tested. The test rig is to be fitted with vibration sensors to enable collecting data and use it to monitor the health of machines. The project is very important to the industry as through understanding the characteristics of failure, time

112.Smart Organic Waste Management for Hotels by Prof. V.R. Kagade, Swapnil Nivangune, Aditya Patil, Dipraj Shinde, Tejas Pawar

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Smart Organic Waste Management for Hotels

Prof. V.R. Kagade[1], Swapnil Nivangune[2], Aditya Patil[3], Dipraj Shinde[4], Tejas Pawar[5]

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UG Student, Mechanical Engineering, NBNSSOE, Pune, India[2,3,4,5]

Abstract: *This work studied the composting process of organic waste. Organic waste is easily biodegradable waste. Organic wastes are produced from many sources Such as agricultural waste, market waste, kitchen waste, urban solid waste and municipal solid waste. Without proper management, this waste could create several environmental problems. Therefore, composting is the best low-cost alternative solution to overcome this problem. The composting method can degrade all types of organic waste such as fruits, vegetables, plants, yard waste and others. The organic waste composition can be used as nutrients for crops, soil additives and for environmental management. However, many factors can contribute to the quality of compost products since different types of organic waste have different concentrations of nutrients. Nitrogen, Phosphorus and Potassium (N, P, K) that are the common macro energetics present in fertilizers. The presence of heavy metals shows how Composts can be applied to soils without contributing any negative effects. In terms of the factors affecting the composting process, temperature, pH, moisture content and carbon nitrogen ratio (C: N) are the main parameters that contribute to the efficiency of the composting process.*

Keywords: Municipal Organic Waste, Composting, Compost Manure, Environmental Pollution, Chemical Fertilizer, etc.

I. INTRODUCTION

Because the large amount of organic waste in the environment has become one of the main global problems. Among the various treatments in the management of organic waste such as the use of landfills and incineration, the decomposition of organic waste through the use of biological processes is considered more appropriate method of solution. Composting is one of the low-cost biological decomposition processes. The composting process is circuited by microbial activity. The physical-chemical parameters affected by this process include temperature, aeration, and moisture content, C: N ratio and pH. Composting is an alternative solid waste management system (SWM), it can be used to recycling of organic materials into useful products. In addition, it can also be used to control the increase in waste. This process is considered the most efficient, environmentally safe and as

113.Performance Analysis of Diesel Engine Using Bio-Diesels by Prof. Y. P. Gawale, Mr. Ejajahamad Mulla, Mr. Swaraj Khanvilkar, Mr. Giteshkumar Sonawane, Mr. Chaitanya Khads

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Performance Analysis of Diesel Engine Using Bio-Diesels

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UG Student, Mechanical Engineering, NBNSSOE, Pune, India[2,3,4,5]

Abstract: *The energy consumption is growing or increase at an enormous rate of demand and rapid uses of alternative fuels or renewable sources of energy and environmental threat, a number of nonconventional energy sources of energy generation varieties have been studied worldwide Karanja, Neem, Palm, Waste Cooking oil-based methyl esters were produced and blended with conventional diesel. fuel blends (Diesel, B20, B40, B60, B80 and B100) were tested for their use as substitute fuel for a single cylinder, four stroke, VCR (Variable Compression Ratio) Diesel engine. Test data were generated under different loads. Change in Performance and exhaust emissions (CO2, CO, HC, NOx) were also analyzed for determining the optimum test fuel at various operating conditions. The maximum increase in power is observed for Palm biodiesel and Titanium Oxide. Brake specific fuel consumptions for all the biodiesel blends with diesel increases with blends and decreases with increasing load. There is an increase in performance when titanium oxide is added in biodiesel blend. There is a reduction in smoke for all the biodiesel and their blends when compared with diesel. Smoke emission reduces with blends and speeds during full load performance test.*

Keywords: Alternative Fuels or Renewable Sources of Energy, Variable Compression Ratio, Palm Biodiesel and Titanium Oxide, etc.

I. INTRODUCTION

Energy is an essential input for economic growth, social development, human welfare and improving the quality of life. Since their exploration, the fossil fuels continued as the major conventional energy source. With increasing trend of modernization and industrialization, the world energy demand is also growing at a faster rate. Apart from

114.Three Axis Pneumatic Dumping Trailer by Prof. K. S. Mahajan, Mr. Makrand Kadu, Mr. Omkar Dalwale, Mr. Shambhu Pardeshi, Mr. Nayan Jagtap

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Three Axis Pneumatic Dumping Trailer

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UG Student, Mechanical Engineering, NBNSSOE, Pune, India[2,3,4,5]

Abstract: *This project work titled "Three Axis Pneumatic Modern Trailer" has been conceived having studied the difficulty in unloading the materials. Our survey in the regard in several automobile garages, revealed the facts that mostly some difficult methods were adopted in unloading the materials from the trailer. The trailer will unload the material in only one single direction. It is difficult to unload the materials in small compact streets and small roads. In our project these are rectified to unload the trailer on all three sides very easily. Now the project has mainly concentrated on this difficulty, and hence a suitable arrangement has been designed. Such that the vehicles can be unloaded from the trailer in three axes without application of any impact force. By pressing the Direction control valve activated. The compressed air goes to the pneumatic cylinder through the valve. The ram of the pneumatic cylinder acts as a lifting trailer cabin. The automobile engine drive is coupled to the compressor engine, so that it stores the compressed air when the vehicle is running. This compressed air is used to activate the pneumatic cylinder, when the valve is activated.*

Keywords: Pneumatic Cylinder, Several Automobile Garages, Methods, Automobile Engine Drive, Vehicle Running, etc.

I. INTRODUCTION

Automation can be achieved through computers, hydraulics, hydraulics, robotics, etc., of these sources, hydraulics forms an attractive medium. Automation plays an important role in automobile. Nowadays almost all the automobile vehicle is being atomized in order to product the human being. The automobile vehicle is being atomized for the following reasons:

- To achieve high safety
- To reduce man power
- To increase the efficiency of the vehicle

115. Design and Manufacturing of Dry Battery Based Electric Bicycle by Prof. R. K. Nanwatkar, Mr. Rushikesh Deshpande, Mr. Rahul Ingale, Mr. Vaibhav Kshirsagar, Mr. Aditya Kulakrni

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Design and Manufacturing of Dry Battery Based Electric Bicycle

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Abstract: *This project deals with the design and fabrication of a low-cost portable electric bicycle kit, which can be mounted on existing bicycles. It has two modes of drive; one is by pedaling and other one is by using an electric motor. The electric bicycle kit consists of a 250WBrush type DC motor which is powered by a 24V lead acid battery. E-bikes use rechargeable batteries and lead acid ones can travel up to 40 km/hr. and some electric bicycles speed can do excess of 55km/hr. There are two types of Electric Bicycle; one has a smaller motor to assist the rider's pedal power. The other one is a more powerful E-bike which are closer to moped style functionality, but all retain the ability to be pedaled by the rider. Major drawback of a traditional bicycle is it increases rider fatigue on long distance travel. Thereby implementing an external drive (electric motor), which can be switched between pedaling and electric drive and this will help to increase the range of travel, better riding experience and reduce rider fatigue. Expected range of an E-Bike is around 20-40 km on a single charge. E-bike can travel at a speed of 20 km/hr.*

Keywords: Low-Cost Portable Electric Bicycle Kit, Rechargeable Batteries, Electric Motor, etc.

I. INTRODUCTION

Ogden Bolton Jr in 1890 was granted with a U.S patent for a battery powered bicycle with "6- pole brush and commutator direct current which was a hub motor mounted on rear axle of bicycle". It had no gears and the motor could draw up to 100 amperes from a 10- volt battery. Later in 1897, Hosea

W. Libbey of Boston invented an electric bicycle which was propelled by a "double electric motor". Production of the E-bike grew from 1993 to 2004 by 30-35%. Less expensive E-bikes used bulky lead acid batteries because of the huge growth they started using NiMH, NiCad and Li-ion batteries which was lighter and denser capacity

116 .Design and Development of Hybrid Moped Using Electrical and Petrol Operating Arrangement by Prof. A. V. Thakare, Mr. Shubham Bachal, Mr. Pratik Nivangune, Mr. Prashant Gudhate, Mr. Vishwajeet Kokare

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Design and Development of Hybrid Moped Using Electrical and Petrol Operating Arrangement

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UG Student, Mechanical Engineering, NBNSSOE, Pune, India[2,3,4,5]

Abstract: *Due to the rapid depletion of fossil resources, an alternative energy vehicle is now required. Electric vehicles are a potential technology in the realm of transportation in the future. Electric vehicles cannot compete with fossil fuel driven vehicles due to minor limitations, prompting the development of hybrid technology. Concentrated attempts are being made to create a hybrid system concept, in which one system is charged while the other delivers propulsion power to the vehicle. When the s is powered by an electric motor, it produces nearly no pollution. This project is concerned with the development of hybrid vehicles, as solely petrol or electric vehicles are insufficient. This hybrid technique can compensate for both types' drawbacks.*

Keywords: Hybrid E-bike, Hybrid Moped, Conversion kit, Hub motor, BLDC Motor, Electronic Speed controller, Lithium Battery, Battery Management System, etc.

I. INTRODUCTION

Around 93 percent of today's autos are powered by petroleum, which is expected to run out by 2050. Furthermore, current autos only use 25% of the energy released by petroleum, with the remainder being squandered into the atmosphere. Despite recent efforts to enhance vehicle fuel efficiency and limit hazardous emissions, emissions have consistently increased over the last two decades. An electric vehicle could be a huge breakthrough in the future preservation of gasoline and vehicle economy. Electric vehicles are pollution-free and efficient at moderate speeds, especially in congested locations. However, battery charging takes time. Furthermore, it is unable to supply the high power demanded by drives in high-speed conditions or on mountainous terrain. The gasoline engine is more

117. Design and Fabrication of Automatic Release of Handbrake after the Application of Seat Belt by Prof. V.M. Bansode, Mr. Sameehan S. Javalekar, Mr. Abhishek P. Malode, Mr. Abhijit K. Wankhade,

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Design and Fabrication of Automatic Release of Handbrake After the Application of Seat Belt

Prof. V.M. Bansode[1], Mr. Sameehan S. Javalekar[2], Mr. Abhishek P. Malode[3], Mr. Abhijit K. Wankhade[4], Mr. Kedar R. Hanmante[5]

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Abstract: *Hand brakes are one of the most important components in vehicles. In general, the hand brake is operated manually. In our project we are developing hand brakes when Seat belt is not acquired for safety purposes. Major causes of death in road accidents are carelessness in safety while driving. In 2012, more than half of all people who died on Utah's roadways weren't buckled. Hence wearing seat belts might have reduced serious crash related injuries and saved life. Hence "Driver Assistive Safety System" (DASS) comprises techniques which inculcate the mandatory safety precautions via ignition. This project describes a safety system which ensures that the driver and co-passenger wear a safety seat belt while driving a car. The driver assistive safety system works on 'Hand Brake Release" concept.*

Keywords: Braking System, Seat Belt, Hand Brake of Vehicle, etc.

I. INTRODUCTION

The most important part in the automobile is the handbrake which is also known as a latching brake. It is used generally when the automobile is parked, thus the alternative name that is parking brakes is used to keep the car stationary also called as automobile e- brakes. The most column used of a parking brake is to keep the vehicle motionless when it is parked. The main function of brake system is to decelerate the vehicle, to maintain vehicles speed during downhill operation and finally to park the vehicle stationary either on a flat or slope road condition. In cars the hand brake is a latching brake usually used to keep the car stationary.

Automobiles e-brakes usually consist of a cable directly connected to a brake mechanism on one end and to some type of mechanism that can be actuated by the driver on the other end of mechanism is often a hand operated lever, on the floor on either side of the driver, a pull handle located below and near the steering wheel column, or a pedal

118. Failure Indication and Monitoring of Spur Gearbox Using Vibration Analysis and Data Acquisition System by Prof. V.K. Kulloli, Mr. Rrishikesh Adane, Mr. Gaurav Yerunkar, Mr. Sumeet Kumar

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Failure Indication and Monitoring of Spur Gearbox Using Vibration Analysis and Data Acquisition System

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Abstract: *Gears are a critical element in a variety of industrial applications such as machine tools and gearboxes. An unexpected failure of the gear may cause significant economic losses. For that reason, fault diagnosis in gears has been the subject of intensive research. Vibration analysis has been used as a predictive maintenance procedure and as a support for machinery maintenance decisions. As a general rule, machines do not break down or fail without some form of warning, which is indicated by an increased vibration level. By measuring and analyzing the machine's vibration, it is possible to determine both the nature and severity of the defect, and hence predict the machine's failure. The vibration signal of a gearbox carries the signature of the fault in the gears, and early fault detection of the gearbox is possible by analyzing the vibration signal using different signal processing techniques. This paper presents analysis of vibration in gears using modal analysis and FFT analysis. It also presents analysis of gears with cracks and gear with missing teeth. It also presents the analysis of Natural frequency in steady as well as running condition.*

Keywords: Gears, Gearboxes, Vibration Analysis, FFT Analysis, etc.

I. INTRODUCTION

All machines with moving parts give rise to sound and vibration. Each machine has a specific vibration signature related to the construction and the state of the machine. If the state of the machine changes the vibration signature will also change. A change in the vibration signature can be used to detect incipient defects before they become critical. This is the basics of many condition monitoring methods. Condition monitoring can save money through

119. Experimental Analysis and Simulation of Hybrid Electric Vehicle Using Lithium-ion Battery and Supercapacitors by Prof. Ravikant K. Nanwatkar, Mr. Pratik S. Bansode, Mr. Prajval R. Bhadakwad, Mr. Shubham S. Pingale, Mr. Varun V. Ovhal

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Experimental Analysis and Simulation of Hybrid Electric Vehicle Using Lithium-ion Battery and Supercapacitors

Prof. Ravikant K. Nanwatkar[1], Mr. Pratik S. Bansode[2], Mr. Prajval R. Bhadakwad[2], Mr. Shubham S. Pingale[4], Mr. Varun V. Ovhal[5]

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UG Student, Mechanical Engineering, NBNSSOE, Pune, India[2,3,4,5]

Abstract: *Due to increasing environmental concerns, Hybrid vehicles are getting attention all over the globe. As our dependency on fossil fuels kept on increasing the supply of fuels keeps depleting and prices keep increasing. The need for alternative fuels is evident now more than ever. Nearly 25% to 30% of total greenhouse gases emitted are due to transportation industry. Harmful gases like CO2, NO2, NO and CO cause environmental damage and adverse effects on human health. To minimize these emissions hybrid vehicles were introduced. Hybrid vehicles can be powered by multiple setups like ICE and Battery combination, CNG and Battery combination etc. One such combination which could potentially be a game changer in this industry is combination of Lithium-ion Battery and Supercapacitor. The Main concern with electric vehicle in its limited range. This can be potentially solved by the use of supercapacitor. The function of supercapacitor in this setup will be to provide the motor of the vehicle with the required power where the battery fails to provide adequate power. The different types of batteries which can be used in this setup are Lead acid battery, Nickel bromide And Lithium-ion. From these Lithium-ion battery are used because of their higher density rechargeable properties and higher efficiency. Lithium-ion battery use inter calculated lithium compound as the material at positive electrode and graphite at negative electrode. The present work is focused on the analysis of Lithium-ion battery and Supercapacitor used in hybrid combination with DC motor in hybrid electric vehicle using simulation and scale model to compare and check different parameters like state of charge of battery, current, voltage, average speed of voltage etc.*

Keywords: Hybrid vehicle, Types of Batteries, Supercapacitor, Lithium-ion Battery, Average speed, State of charge, Simulation, etc.

120 Design and Fabrication of Automated Wheelchair by Prof. V. M. Bansode, Junaid Shaikh, Muneeb Khadri, Sadashiv Samshette, Maaj Patel

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Design and Fabrication of Automated Wheelchair

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Abstract: *The widespread prevailing loss of limbs is a day-to-day scenario due to accidents, age, health problems, and wars. A wheelchair monitored with the Android mobile application is developed to help the disabled patients by using an android application to control the movement of a wheelchair in different directions. The main criteria are to design a wheelchair that will be controlled wirelessly and will be very convenient to operate with no physical efforts. The wheelchair controlled by the android application will be a boon for many patients who are dependent on a wheelchair for their mobility. This project will help the disabled to function in the wheelchair on their own.*

Keywords: Android Phones, Microcontroller Atmega-328, DC Motors, Wheelchair, etc.

I. INTRODUCTION

Several studies have shown that both children and adults benefit substantially from access to a means of independent mobility, including power wheelchairs, manual wheelchairs, and scooters. Independent mobility increases vocational and educational opportunities, reduces dependence on caregivers and family members, and promotes feelings of self-reliance. For young children, independent mobility serves as the foundation for much early learning. Non-ambulatory children lack access to the wealth of stimuli afforded self-ambulating children. This lack of exploration and control often produces a cycle of deprivation and reduced motivation that leads to learned helplessness.

The widespread prevailing loss of limbs is day-to-day scenario due to accidents, age, health problems, and wars. A wheelchair monitored with the Android mobile application is developed to help the disabled patients by using an android application to control the movement of a wheelchair in different directions. The main criteria are to design a wheelchair that will be controlled wirelessly and will be very convenient to operate it with no physical efforts. The wheelchair controlled by the android application will be a boon for many patients who are dependent

121. Review of Solar Panels & Thermoelectric Generator for Waste Heat Recovery from Automobile Exhaust by Prof. Ms. Ashwini V. Thakare, Vishal Jare, Mayur Kulabkar, Adesh Taur, Sudarshan Zudape

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Review of Solar Panels & Thermoelectric Generator for Waste Heat Recovery from Automobile Exhaust

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Abstract: *This Project involves the thermoelectric generation from the thermoelectric generator module whose principal is Seebeck effect. These modules are connected in series and parallel manner which is attached at the hot junction created by the hot water coming out of the heat engine and the exhaust gasses coming out of the engine. The cold side is created by the fins connected to that module. Both of the heat is large in amount and are wasted if not used. Produced energy from the thermoelectric generator module is transferred to the battery. This battery supplies the energy to the Peltier module which is used to create the colder side as well as hotter side. Again, this module is connected to the solar panels to produce the energy from the sun during the day time which ultimately reduces the load on the AC. So, in this invention the combination of the solar panels and thermoelectric generation module reduces the load on the AC.*

Keywords: Thermoelectricity, Electricity Generation, Heat Utilization, Peltier Effect, See Back Effect, Solar Energy, etc.

I. INTRODUCTION

Efficiency of the diesel engine is 45%. Whereas the efficiency of the petrol engine is 30 %. Thus rest all the energy is get converted into heat. Until recently, the operating temperatures of a car engine have typically been between 180F and 200F which is nearly 78 c to 100c. This is the temperature at which the thermostat opens allowing coolant to travel to the radiator. Coolant temperatures at the cylinder heads, particularly the exhaust valve area, are much higher and temps at the output end of the radiator will be lower. Whereas the ambient temperature

122. Design of Conveyor System and Fixture Assembly of Kit-Bin Handling System in Engine Assembly Area by Prof. V. R. Kagade, Prashant Sahani, Niranjan Bhojane, Ashutosh Salvi, Vikas Shivangekar

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Design of Conveyor System and Fixture Assembly of Kit-Bin Handling System in Engine Assembly Area

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Abstract: *This work presents an application of the concept of concurrent engineering and the principles of design for manufacturing and design for assembly: several critical conveyor parts were investigated for their functionality cost and ease of assembly in the overall conveyor system. The critical parts were modified and redesigned with new shape and geometry and some with new materials. The improved design methods and the functionality of new conveyor parts were verified and tested on a new test conveyor system designed, manufactured, and assembled using the new improved parts. The improved methodology for design and production of conveyor components is based on the minimization of material, parts using the rules of design for manufacture and design for assembly. The semi-finished material has to be transported from one station in the assembly to another at a distance of up to 20 meters or more. The method of manual transport by fork-lift is time consuming. A mechanism for continuous and uninterrupted transport is desired. This is carried out with reference to the roller conveyor system (Existing system). The existing system will be redesigned and optimized for weight, resulting in material saving by modifying and analysing critical conveyor parts.*

Keywords: Belt Conveyor, Fixture Assembly, Roller and Kit-bin, etc.

I. INTRODUCTION

A transport framework is bit of mechanical hardware used to transfer the material from one place to another. These are used in transport the material which are having heavy weight and bulky material. Conveyor system allows the quick and efficient transport for a variety of material and having a very popular material in handling

123.Vibration Analysis of Canopies Using Elastic Damping Technique by Mr. D. A. Mahajan, Mr. Akash Bagul, Mr. Kunal Chaudhari, Mr. Nirav Dolasiya, Mr. Shyam Pawa

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Vibration Analysis of Canopies Using Elastic Damping Technique

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Abstract: *The sheet metal structures (Canopy) used in DG sets are mostly susceptible to the various static and dynamic loads during their oscillation cycles. Due to this, they encountered resonance conditions at various operating frequencies. Resonance leads to harmonic excitation which further introduces the deformation and stresses leading to the failures of sheet metal structures. Reframing of sheet metal structure with the help of elastic material such as rubber, foam, bitumen, NBR latex etc. changes the stiffness of structure. Thus, stiffness alternation leads to change in dynamic characteristics like natural frequency, mode shapes, and harmonic response. Optimum distributions of damping material in shell structures subject to impact loads by topology optimization. The optimization aims at reducing the residual vibration responses after the application of impact loads. In particular, the dependence of both structural forced vibration and residual vibration on the damping layer distribution is considered by the transient dynamic responses-based optimization approach. Until now, optimum distributions of damping material are always carried out based on frequency domain responses or structural dynamic characteristics. Modal and Harmonic analysis will be simulated using FEA (Ansys Workbench). In experimentation, Impact hammer test and FFT analyzer will be used for the validation purpose. Natural frequencies for sheet metal structure with and without reinforcement will be calculated. Results and conclusions will be drawn by comparing*

124.Design and Analysis of Insulation of Pipe Carrying Hot Fluid Using Composite Materials by Prof. R. A. Solunke Mr. Mandar Sutar, Ms. Jalindar Sure, Mr.Romit More, Mr. Parag Sondkar

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Design and Analysis of Insulation of Pipe Carrying Hot Fluid Using Composite Materials

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Abstract: *Fiber-reinforced composites are a well-recognized option for repair and rehabilitation of the pipelines for the oil and gas industry. The filled composite sleeve system provides an effective rehabilitation solution, where the sleeve acts as prime reinforcement without any direct contact with steel. However, the long-term performance of the repair is dependent, in part, on the effect of hydrothermal ageing of the composites. In this publication, the main application of the insulation pipe is taken as used in Industry. The CFD analysis is performed on the normal pipe without insulation and then performed with insulation of composite material like glass fiber. Compared the temperature results of 2 iterations and evaluated the optimized model for the insulation pipe.*

Keywords: Fibre-reinforced Composites, Hydrothermal Ageing, CFD, Simulation, etc.

I. INTRODUCTION

The purpose of insulation is to reduce the heat being dissipated from our system to the surroundings in this case we are only considering insulation of a pipe carrying hot fluid therefor pipe is our system. When the pipe is carrying hot fluid mostly steam in the power plants to strike on the turbine and rotate with high speed in terms to generate electricity, we know from the third law of thermodynamics that when the temperature of the steam is more than more amount of energy is produced and more electricity is generated. When the steam travels through pipe to the turbine, substantial quantity of heat energy is wasted due to dissipation of this heat to the environment through the pipe. To reduce this dissipation of heat to the surrounding we need to insulate the walls of the pipes. Properly designed and installed insulation system will immediately increase the efficiency, improve productivity and enhanced environmental quality.

125.Thermoelectric Power Generation from Waste Heat by Prof. V. K. kulloli, Mr. Akash Thopate, Mr. Pratik Garad, Mr. Sunny Kumbhar, Mr. Ganesh Sonavane

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Thermoelectric Power Generation from Waste Heat

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Abstract: *The current worldwide trend of increasing transportation is responsible for increasing the use of internal combustion engines. I.C engines, the devices with a high energy usage and low efficiency because a high amount of the energy produced during combustion is lost in the exhaust and in the coolant of the engine in the form of heat. As a huge amount of energy is lost, there is an urgent need to design advice to trap this loss. This paper proposes and implements a waste heat recovery system using a thermoelectric generator (TEG) designed for four strokes I.C. engine. The system converts the waste heat from the exhaust manifold into electrical energy using a TEG. The output is then boosted by a Joule Thief converter to run the required load or to charge a battery. The experimental results demonstrate that the proposed system recovers a considerable amount of waste heat which can be used to power some auxiliary automobile devices.*

Keywords: IC Engine, Heat Energy Recovery, Silencer Bend Pipe, TEG, Electric Load, etc.

I. INTRODUCTION

There is no system which converts total input energy into output energy practically, there are some losses. In the universe there is no system which is 100% proficient, due to losses system effectiveness decreases in real practices. Automobile sector are an example of high energy usage with low competence. It has 30% efficiency and roughly 75% of the energy produced during combustion and roughly 75% of the energy produced during combustion is lost in the exhaust or engine coolant in the form of heat. If this energy is tapped and transformed into functional energy, the overall efficiency of an engine can be improved. Thermoelectric technology can be used to generate electrical power from waste heat. Thermoelectric generator utilizes the See beck effect which was first observed in 1821.

126.Pneumatic Gear Shifting Mechanism by Prof. Prajakta Gharge, Mr. Sanket Shinde, Mr. Vishal Ranjille, Mr. Rushikesh Mugle, Mr. Yogesh Kasabe

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Pneumatic Gear Shifting Mechanism

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Abstract: *At present due to the extended difficulties in manual operations, the technology has shifted from manual to automatic; few of them include ABS system, active steering system etc., in order to increase passenger safety and comfort. Increasing demands on performance, quality and cost are the main challenges for today's automotive industry, in an environment where movement, components and every assembly operation must be immediately and automatically recorded, checked and documented for maximum efficiency. One of the automatic applications includes a pneumatic gear changer. This study describes in detail in an understandable way how to convert the traditional manually gear shifting mechanism by using Pneumatic cylinders.*

Keywords: Pneumatic Cylinders, Pneumatic Gear Changer, Active Steering System, ABS, etc.

I. INTRODUCTION

In this project we have designed pneumatic gear shifting mechanism for two-wheeler using two pneumatic cylinders so as to make gear transmission easy for people.

II. LITERATURE SURVEY

S. Vijay Kumar, P. Nithesh Reddy was discussed about a gear shifting mechanism was designed and applied to make the shifting process faster and less destructible for the driver to improve gear shifting process using devices as: a manual four speed gear box, two pneumatic double acting cylinders, Programmable Logic Controller (PLC), an electrical motor, limit switches, push buttons, bulbs, a table (holder) and power supply. According to suggested gear_ shifting method the control unit chooses optimum gear shifting ratio for an automobile without operating it manually (using relays). Using this method leaves to the driver the excitement of choosing the shifting moment.

Muntaser Momani (2010) was discussed about a gear shifting mechanism was designed new device must be

127.Experimental Analysis and Simulation of Electric Vehicle using Lithium-ion Battery by Prof. Ravikant K. Nanwatkar, Mr. Sai S. Pardeshi, Mr. Harshwardhan S. Raykar, Mr. Smit S. Shivgar, Mr. Soham H. Angrer

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Experimental Analysis and Simulation of Electric Vehicle using Lithium-ion Battery

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Abstract: *Electric mobility is getting attention all over the world due to the increasing environmental concerns. Day-to-day use of fuel is increasing due to its consumption by the vehicles and other industrial uses. This massive use of fuel has given rise to the fuel prices. Also, India features among the top four nations using the greatest number of two-wheelers all over the world. Maharashtra is using the greatest number of cars in India. Delhi, Mumbai is the top among using two-wheelers in India. This shows the massive utilization of vehicles which results in high consumption of conventional fuels which are decreasing day by day. All these facts are contributing in increasing air pollution. Nearly 25% to 30% of total green-house gases emissions in world are due to transportation industry. This fuel consumption results in production of harmful gases like C02, NO2, NO and CO which causes environmental damage and has adverse effect on human health. To avoid these emissions electric vehicles were introduced. Electric vehicles can be powered by electric motors. As it runs on electricity, vehicle emits no exhaust gases and is environmentally friendly. EV employs electric-drive technologies to boast vehicle efficiency. The different types of batteries such as Lead acid, lithium ion, nickel bromide is used as an energy storage for electric vehicles. Lithium batteries are used as a mode in EV as they have higher densities than lead-acid batteries. Compared with other commonly rechargeable batteries like Ni-Cd, Ni-MH and Lead-acid battery, the lithium-ion battery is featured by high energy and power density, long service life and environmental friendliness and, thus, has been widely applied in consumer electronics It is a type of rechargeable battery in which lithium ions move from the negative electrode through an electrolyte to the positive electrode during discharge, and back when charging. Li-ion batteries use an intercalated lithium compound as the material at the positive electrode and typically graphite at the negative electrode. The present work is focused on the analysis of lithium-ion batteries with DC motor in an electrical vehicle using simulations and a scale model to*

128. Experimental Study of Tube and Tube Type Heat Exchanger by Using the Nano Fluid
by Prof. A. O. Dhumal, Mr. Korde Abhijeet, Mr. Vyavahare Adesh, Mr. Patil Vishal, Mr. Ubhale Swapnil

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Experimental Study of Tube and Tube Type Heat Exchanger by Using the Nano Fluid

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Abstract: *Nano fluids have improved thermal properties and possible heat transfer rate. Nano fluids play a major role in various applications which increase heat transfer rate as it contains metallic or non-metallic Nano powders with a size of less than 100nm in base fluids so, it increases the heat transfer potential of the base fluids. Water is the working fluid in the heat exchanger and metal based (Cu or Al) Nano fluid of particular concentration will act as a heat carrier. Experimental set up will be manufactured with minimum possible dimensions to reduce the cost. Thermocouples are used to measure the temperature of water and Nano fluid at the inlet and outlet. The flow control valves are used to control the flow rate. The effect of mass flow rate of fluids on heat exchangers was studied. The CATIA model was drawn. The result & conclusion was drawn after the experimental resting.*

Keywords: Nano Fluids, Heat Exchanger, Mass Flow Rate, CATIA, etc.

I. INTRODUCTION

The energy conservation is one of the vital issues of the twenty-first century, and it will certainly be one of the most significant challenges in the near future. Therefore, scientists, engineers and researchers are considerably trying to address this important concern. The advances made in heating or cooling in industrial devices cause energy saving and heat transfer improvement, and increase the operational life of the equipment. Energy savings can be performed by the efficient use of energy. Energy conversion, conservation and recovery are some routes for energy saving.

129. Design and Fabrication of Automatic Weight Sorting Machine by Prof V. R. Kagade, Mr. Alpesh Patil, Mr. Pranav Koditkar, Mr. Sarthak Kulkarni, Mr. Huvishk Mankar

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Design and Fabrication of Automatic Weight Sorting Machine

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Abstract: Sorting of items is an important action that is employed in many aspects of daily life for the benefit of convenience. Sorting was mostly done manually and reliant on human judgments until a few years ago. Sorting systems are a more practical and cost-effective way to automate. The main goal of the sorting system is to reduce manpower while improving product quality and efficiency. In the current context, most sorting systems use criteria such as colour, size, and material type, but they come with drawbacks such as environmental sensitivity, high cost, and complexity. Weight is used as a sorting criterion in this paper's proposed sorting system. The constructed machine tries to use mechanical and electronic components in conjunction with one another.

Keywords: Automatic sorting, Weighing mechanism, Load cells, Controller, etc.

I. INTRODUCTION

Sorting is the process of systematically arranging items. This procedure must be followed in different aspects of daily life. Consumers nowadays are looking for high-quality products. Sorting of new lots is done in the potato chip industry to assure the quality of raw materials utilised in the subsequent procedure. Size, colour, and weight are examples of sorting criteria. Unlike other factors, weight is one that cannot be predicted or calculated only by eye inspection. When the weight of the object is the design metric for sorting, the proposed system can be useful. Most sorting methods currently in use are based on principles such as machine vision, image processing, fuzzy logic, density difference, and others, all of which have limitations.

Machine vision technology can effectively classify fine things such as tablets, but it has downsides such as a costly initial investment and software needs. The image processing equipment includes expensive sensors and high-resolution cameras. Furthermore, the performance of such devices is influenced by the lighting conditions in the

130. Simulated and Experimental Analysis of Different Batteries for Light Weight Electric Vehicle by Prof. V. M. Bansode, Mr. Rohit Gavali, Mr. Santosh Barade, Mr. Nikhil Salunkhe, Mr. Yogesh Waghmode

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Simulated and Experimental Analysis of Different Batteries for Light Weight Electric Vehicle

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Abstract: *The increasing demand of efficient solution for automobile sector due to rise in petroleum prices, its harmful effects on environment, The Electric mobility contributing to greater extent to balance the energy and power demands, energy storage units as well as environment safety. Electric vehicle has major efficient features of zero combustion, longer charging and discharging cycle which plays a vital role to replace the ongoing increase in price of petroleum fuels and its harmful effect son environment with their degrading store. Many non-conventional energy sources like solar, tidal, wind etc. Can be used to generate energy and store it in suitable types of batteries to run these vehicles. The Different types of batteries like lead acid, lithium ion, nickel bromide is used as an energy storage device for these electric vehicles. But with many advantages these batteries have some structural and thermal issues if not designed or connected properly. These issues are capacity loss, cell balancing, thermal runaway, reduction in battery life etc. Therefore, much focus needs to give on proper battery connections, selection of battery for specific application considering its working parameters. Possible types of connections for batteries are active, passive and semi active as per their connections in series and parallel type. For series combinations apposite terminals of batteries are connected to each other, in which current remains constant and battery voltage is summed up to increase for maintaining the same capacity or ampere hour (Ah) rating of batteries. Whereas in parallel connections same terminals of the batteries are connected to each other in which voltage remained constant and battery current is summed up to rise. This is needed when we need to double the battery capacity or ampere hours (Ah) rating according to your system needs while maintain the same level of voltages. The*

131. Re-Design and Numerical Analysis on Vertical Axis Wind Turbine Blade Profile by Prof. D.H. Burande, Mr. Vedang Ijantkar, Mr. Omkar Jagtap, Mr. Shrutam Gadadare, Mr. Digvijay Marathe

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Re-Design and Numerical Analysis on Vertical Axis Wind Turbine Blade Profile

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Abstract: *Wind energy is a promising renewable and clean energy source and wind turbines are the common devices to harvest this energy. Vertical-axis wind turbines (VAWTs), one kind of wind turbine, are concerned because of their congenital advantages of easy maintenance. However, one main issue of VAWTs is that the aerodynamic phenomenon of dynamic stall typically occurs under low tip-speed-ratio conditions, which negatively affects their power extraction performance. This study focuses on exploring a better blade design to improve the power coefficient of VAWTs. The study of cambered NACA2412 and symmetric NACA0018 aerofoil is designed in Q blade software and analyzed. For computational analysis Ansys space claim, ANSYS workbench software is used to carry out 2D analysis to study the understanding of performance of blade and then 3D analysis is carried out to learn modelling of blades rotation and distance from shaft or center of VAWT plays very important role in increasing the efficiency and power outcome of the system.*

Keywords: NACA, QBlade, VAWTs, HAWT, etc.

I. INTRODUCTION

As the world continues to use up non-renewable energy resources, wind energy will continue to gain popularity. A new market in wind energy technology has emerged that has the means of efficiently transforming the energy available in the wind to a usable form of energy, such as electricity. The cornerstone of this new technology is the wind turbine. A wind turbine is a type of turbo machine that transfers fluid energy to mechanical energy through the use of blades and a shaft which converts that form of energy to electricity through the use of a generator. Depending on whether the flow is parallel to the axis of rotation (axial flow) or perpendicular (radial flow) determines the classification of the wind turbine.

132. Design and Manufacturing of Automotive Air Conditioning System to Remove the Fog using TEG/TEC Effect by Prof. S. A. Gurav, Mr. Shailesh S. Dongardive, Mr. Prathmesh A. Potdar, Mr. Manthan A. Wadkar, Mr. Saurabh Y. Pasalkar

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Design and Manufacturing of Automotive Air Conditioning System to Remove the Fog using TEG/TEC Effect

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Assistant Professor, Mechanical Engineering, NBNSSOE, Pune, India[1]

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Abstract: *Fog is a natural weather condition that can cause visibility to become zero. It can cause vehicle accidents. Nowadays the air conditioners are very efficient and reliable but it has some demerits. According to the International Institute of Refrigeration, air conditioning and refrigeration consumes around 15% of the total worldwide electricity and also contributes to the emission of CFCs, HCFCs, and CO2 etc. Due to the use of such refrigerants it leads to many harmful effects to our environment i.e., global warming. For air conditioning use of fuel also increases and all these are affecting the car efficiency. To overcome the problem of emission and fulfil the mismatch between the demand and supply of energy consumption the thermoelectric Air conditioning can be used. This system is not going to be noisy, there will be no hazardous emission to the environment so the system is totally eco-friendly. As the Peltier module is quite compact in size the design can be easily acquired according to space and need.*

Keywords: Refrigeration, Peltier Plate, Peltier Effect, Seebeck effect, etc.

I. INTRODUCTION

A thermoelectric module is an electrical module, which produces a temperature difference with current flow. The emergence of the temperature difference is depending on the Peltier effect designated after Jean Peltier. The thermoelectric module is a heat pump and has similar function as a refrigerator. It gets along however without mechanically small construction units (pump, compressor) and without cooling fluids. The heat flow can be turned by reversal of the direction of current. Thermoelectric cooling provides an alternative solution to the common

133.Surveillance and Defense Bot by Prof. D. A. Mahajan, Mr. Akash Bhaliya, Mr. Mihir Thakur, Mr. Kedar Ghodke, Mr. Lakhan Londhe

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Surveillance and Defense Bot

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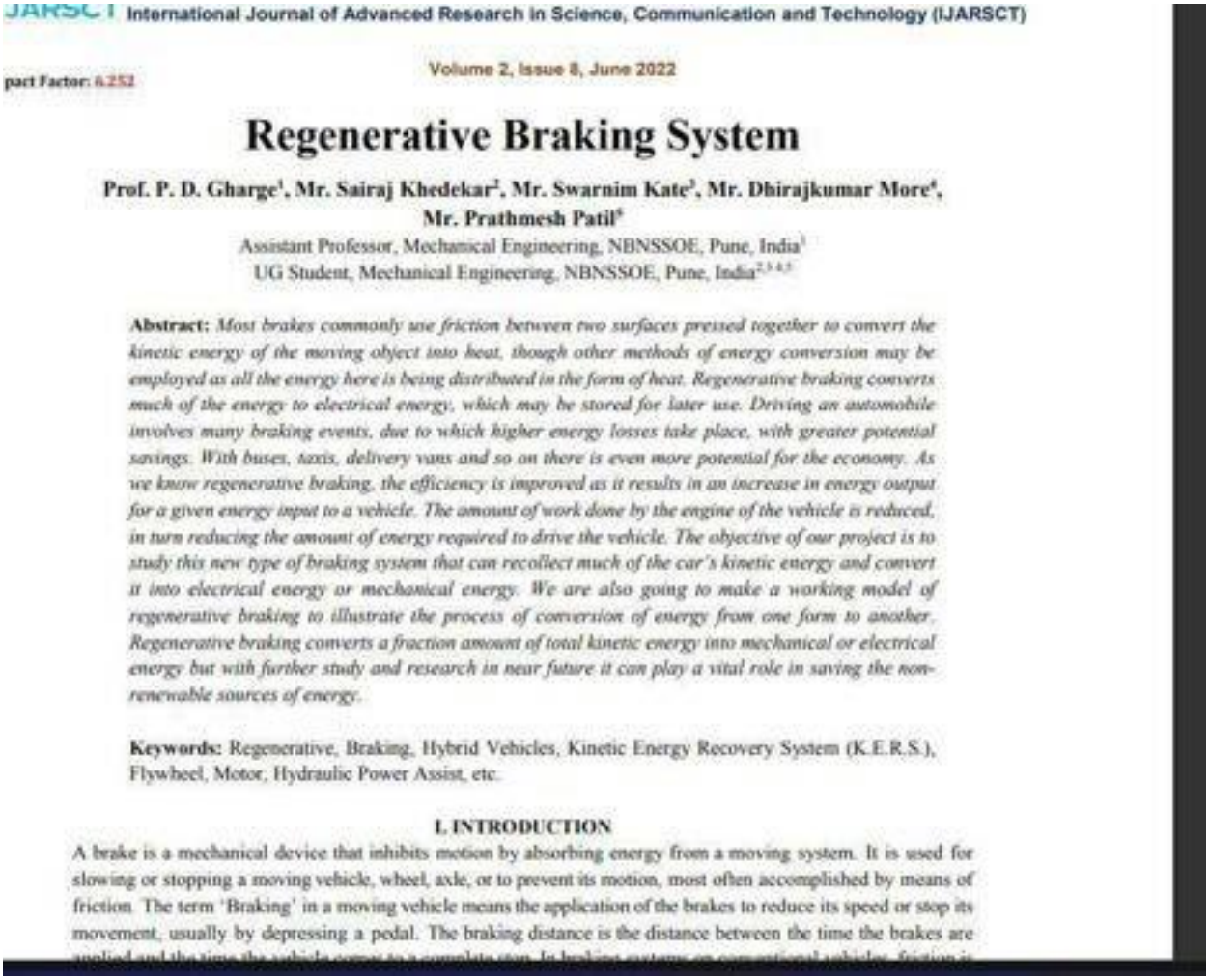
Abstract: *This robotic vehicle has the ability to substitute the soldier at the border area to provide surveillance. The robotic vehicle works as manually controlled vehicle using internet communication medium. This robot used to detect presence of enemy capture it in camera and give the live streaming to the authorized person Surveillance is major role while we working on border area for this there is robot for surveillance purpose. This paper presents a smart surveillance robot for military application by using an Atmega328 microcontroller for security purposes. On field Atmega 328p microcontroller sends a wireless command which is received by Authorized person on web Page and accordingly robot moves. We have seen increased levels of investment in autonomous vehicles for surveillance and security used. On the domestic side, the robots are only used to detect human movement in the region and store it in the database to record, but on the side of the defense, the robots are used to detect the movement and directly send to the control room and capturing the person on the field. We propose a cost effective four wheels surveillance robot of an Arduino microcontroller. This system is very useful for monitoring in areas where there is no Internet connection and also the collapse of the communication system during a disaster.*

Keywords: Atmega 328p, Smart Surveillance Robot for Military, Internet, etc.

I. INTRODUCTION

The advent of new high-speed technology and the growing computer Capacity provided realistic opportunity for new robot controls and realization of new methods of control theory. This technical improvement together with the need for high performance robots created faster, more accurate and more intelligent robots using new robots control devices, new drivers and advanced control algorithms. This project describes a new economical solution of robot control systems. In general; the robots are controlled through wired network. The programming of the robot takes time if there is any change in the project the reprogramming has to be done. Thus, they are not user

134.Regenerative Braking System by Prof. P. D. Gharge, Mr. Sairaj Khedekar, Mr. Swarnim Kate, Mr. Dhirajkumar More, Mr. Prathmesh Patil



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Regenerative Braking System

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Abstract: *Most brakes commonly use friction between two surfaces pressed together to convert the kinetic energy of the moving object into heat, though other methods of energy conversion may be employed as all the energy here is being distributed in the form of heat. Regenerative braking converts much of the energy to electrical energy, which may be stored for later use. Driving an automobile involves many braking events, due to which higher energy losses take place, with greater potential savings. With buses, taxis, delivery vans and so on there is even more potential for the economy. As we know regenerative braking, the efficiency is improved as it results in an increase in energy output for a given energy input to a vehicle. The amount of work done by the engine of the vehicle is reduced, in turn reducing the amount of energy required to drive the vehicle. The objective of our project is to study this new type of braking system that can recollect much of the car's kinetic energy and convert it into electrical energy or mechanical energy. We are also going to make a working model of regenerative braking to illustrate the process of conversion of energy from one form to another. Regenerative braking converts a fraction amount of total kinetic energy into mechanical or electrical energy but with further study and research in near future it can play a vital role in saving the non-renewable sources of energy.*

Keywords: Regenerative, Braking, Hybrid Vehicles, Kinetic Energy Recovery System (K.E.R.S.), Flywheel, Motor, Hydraulic Power Assist, etc.

I. INTRODUCTION

A brake is a mechanical device that inhibits motion by absorbing energy from a moving system. It is used for slowing or stopping a moving vehicle, wheel, axle, or to prevent its motion, most often accomplished by means of friction. The term 'Braking' in a moving vehicle means the application of the brakes to reduce its speed or stop its movement, usually by depressing a pedal. The braking distance is the distance between the time the brakes are

135.Design and Analysis of Two Wheel Drive Forklift for Industrial Warehouses by Prof. G. V. Pise, Mr. Mayur Shitole, Mr. Suhas Marade, Mr. Rushikesh Dhamal, Aditya Choure

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Abstract: *Gears are a critical element in a variety of industrial applications such as machine tools and gearboxes. An unexpected failure of the gear may cause significant economic losses. For that reason, fault diagnosis in gears has been the subject of intensive research. Vibration analysis has been used as a predictive maintenance procedure and as a support for machinery maintenance decisions. As a general rule, machines do not break down or fail without some form of warning, which is indicated by an increased vibration level. By measuring and analyzing the machine's vibration, it is possible to determine both the nature and severity of the defect, and hence predict the machine's failure. The vibration signal of a gearbox carries the signature of the fault in the gears, and early fault detection of the gearbox is possible by analyzing the vibration signal using different signal processing techniques. This paper presents analysis of vibration in gears using modal analysis and FFT analysis. It also presents analysis of gears with crack and gear with missing teeth. It also presents the analysis of Natural frequency in steady as well as running condition.*

Keywords: Gears, Fault Diagnosis, Vibration, etc.

I. INTRODUCTION

On floor, lifting heavy components or materials is a hectic job and also a risky job. Fork lift are always play an important role for heavy duty works, if cargos are being organized properly for the use of forklifts with right attachment would be a best way to load and unload which would make the whole process less time consuming, the less labours intensive in addition forklifts optimize the use of storage space by eliminating the need for many people to handle the loading and unloading operation. The value of use of internal transport square measures a typical part of the company's accounting, whereas the environmental consequences associated with it square

136.Design and Experimental Analysis of Two-Wheeler Disc Brake for Performance Enhancement Prof. R. K. Nanwatkar, Prof. A. S. Thakare, Mr. Anwit Bhatkhande, Mr. Sourabh Kadu, Mr. Parth Pawar, Mr. Rohan Joshi

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Design and Experimental Analysis of Two-Wheeler Disc Brake for Performance Enhancement

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Abstract: *Building a Project plays a vital role in improving skills as well as in boosting career opportunities for an engineer. Designing and building any machine comes with its share of success and failures. This is a way of brainstorming, creating new ideas which help in betterment of our future and also opens to other new ideas. Disc brakes have evolved over time to be a reliable method of decelerating and stopping a vehicle. There have been different designs of disc brake systems for different applications. This review gives a description of different aspects of the components and the materials used in a disc brake system. In spite of all the improvements, there are still many operational issues related to disc brakes that need to be understood in greater detail and resolved. There has been a lot of research going on about these issues and at the same time different methods are being proposed to eliminate or reduce them. There has also been intensive fundamental research going on about the evolution of the interface of the disc-pad system. One major purpose of the present paper is to give a comprehensive overview of all such developments. The basic principle used in braking systems is to convert the kinetic energy of a vehicle into some other form of energy. For example, in friction breaking it is converted into heat, and in regenerative braking it is converted into electricity or compressed air etc. During a braking operation not all the kinetic energy is converted into the desired form, e.g., in friction breaking some energy might be dissipated in the form of vibrations.*

Keywords: Disc Brakes, Braking Systems, Electricity or Compressed Air, Kinetic Energy, etc.

137. Design and Fabrication of Pneumatic Sugarcane Bud Cutter by Prof. R. K. Nanwatkar, Dr. A. V. Thakare, Mr. Shirish Jadhav, Mr. Rushikesh Kande, Mr. Mayur Gawali, Ms. Simran Fegade

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Design and Fabrication of Pneumatic Sugarcane Bud Cutter

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Abstract: *Sugarcane is one of the most widely farmed crops over the globe. After harvesting sugarcane, cutting the sugarcane into chunks is a very time-consuming process. All sugarcane cutting machines are either manual or semi-automatic. This involves a lot of time and labor for each machine since the operation is not fully automatic. So here we propose a fully automatic sugarcane bud cutter that utilizes pneumatic power for automatic sugarcane cutting mechanism. The system makes use of a mini tabletop machine with a powerful motorized arrangement to push an entire sugarcane bud into the machine cutter. Once a sugarcane stick bud is inserted a rubber gripper roller powered by a geared motor is used to drive the stick towards the cutter at a specific rate. A second roller is attached to the system through a screw-based arrangement and is used to push the sugarcane stick towards the other roller and maintain a grip over the cane. The system is further integrated with a pneumatic cylinder. A cutter blade is attached to the front end of the actuator. The pneumatic cylinder is powered by an external compressor to drive it back and forth using high air pressure. This blade is used to cut the sugarcane bud into equal pieces in coordination with the feeder rollers. The machine uses rollers to pull in the sugarcane stick and a cutter to cut it. Now the system also includes a controller circuitry that controls the cutting length of each piece. This allows the operator to cut the sugarcane in desired pieces.*

Keywords: Cutting Blade, Sugarcane Bud Cutting Machine, Cutting Bud, etc.

I. INTRODUCTION

The agriculture sector of India has occupied43% of India's geographical area, and is contributing 16.1% of India's GDP. Agriculture still contributes significantly to India's GDP despite decline of its share in India's GDP. There

138. Experimentation Vibration Damping by Particle Damping in Transmission Gears by Prof. S. D. Bhaisare, Mr. Abhijeet Liman, Mr. Omkar Jagade, Mr. Omkar Parmar, Mr. Mohseef Shaikh

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Experimentation Vibration Damping by Particle Damping in Transmission Gears

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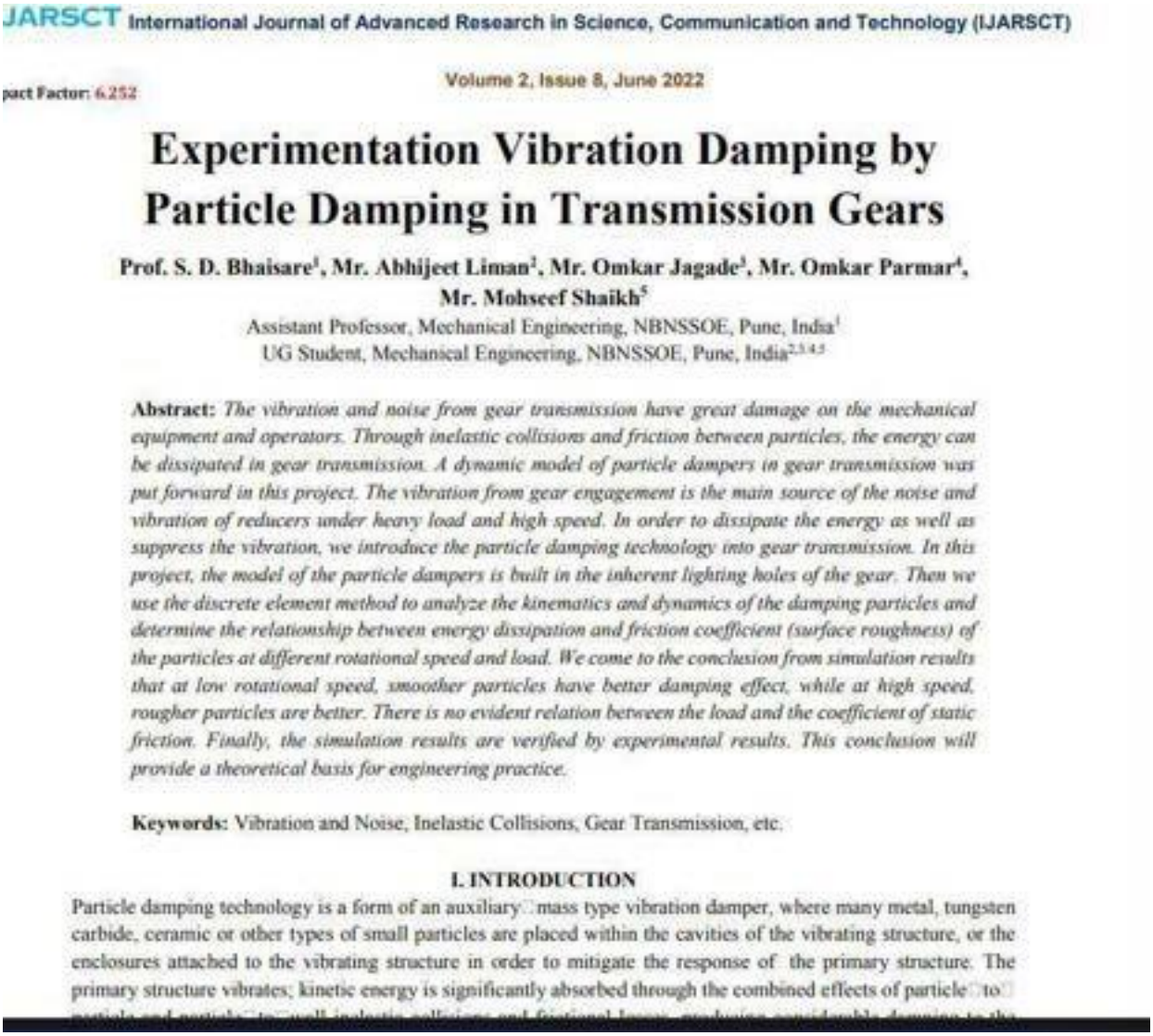
Abstract: *The vibration and noise from gear transmission have great damage on the mechanical equipment and operators. Through inelastic collisions and friction between particles, the energy can be dissipated in gear transmission. A dynamic model of particle dampers in gear transmission was put forward in this project. The vibration from gear engagement is the main source of the noise and vibration of reducers under heavy load and high speed. In order to dissipate the energy as well as suppress the vibration, we introduce the particle damping technology into gear transmission. In this project, the model of the particle dampers is built in the inherent lighting holes of the gear. Then we use the discrete element method to analyze the kinematics and dynamics of the damping particles and determine the relationship between energy dissipation and friction coefficient (surface roughness) of the particles at different rotational speed and load. We come to the conclusion from simulation results that at low rotational speed, smoother particles have better damping effect, while at high speed, rougher particles are better. There is no evident relation between the load and the coefficient of static friction. Finally, the simulation results are verified by experimental results. This conclusion will provide a theoretical basis for engineering practice.*

Keywords: Vibration and Noise, Inelastic Collisions, Gear Transmission, etc.

I. INTRODUCTION

Particle damping technology is a form of an auxiliary mass type vibration damper, where many metal, tungsten carbide, ceramic or other types of small particles are placed within the cavities of the vibrating structure, or the enclosures attached to the vibrating structure in order to mitigate the response of the primary structure. The primary structure vibrates; kinetic energy is significantly absorbed through the combined effects of particle to

139. Experimental and Simulated Analysis of Lithium-Ion Battery Parameters for Electric Vehicle by Prof. Ravikant K. Nanwatkar, Prof. A. V. Thakre, Mr. Rigved Rajurkar, Mr. Onkar Kardiwal, Mr. Ozair Yermal, Mr. Lalit Suryawanshi



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Experimentation Vibration Damping by Particle Damping in Transmission Gears

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Abstract: *The vibration and noise from gear transmission have great damage on the mechanical equipment and operators. Through inelastic collisions and friction between particles, the energy can be dissipated in gear transmission. A dynamic model of particle dampers in gear transmission was put forward in this project. The vibration from gear engagement is the main source of the noise and vibration of reducers under heavy load and high speed. In order to dissipate the energy as well as suppress the vibration, we introduce the particle damping technology into gear transmission. In this project, the model of the particle dampers is built in the inherent lighting holes of the gear. Then we use the discrete element method to analyze the kinematics and dynamics of the damping particles and determine the relationship between energy dissipation and friction coefficient (surface roughness) of the particles at different rotational speed and load. We come to the conclusion from simulation results that at low rotational speed, smoother particles have better damping effect, while at high speed, rougher particles are better. There is no evident relation between the load and the coefficient of static friction. Finally, the simulation results are verified by experimental results. This conclusion will provide a theoretical basis for engineering practice.*

Keywords: Vibration and Noise, Inelastic Collisions, Gear Transmission, etc.

I. INTRODUCTION

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140. Railway Track Crack/Obstacle Detection System using IR Sensor by Prof. R. K. Nanwatkar, Mr. Adesh Sonawane, Mr. Mayuresh Vaidya, Mr. Rahul Shah, Mr. Bhavesh Sonawan

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Railway Track Crack/Obstacle Detection System using IR Sensor

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Abstract: *In the fast-developing country, people are facing many accidents; it would be undesirable for any nation to lose their life for an unwanted cause. Railways are one of the important transports in India. There is a need for manual checking to detect the crack on railway track and railway personnel always take care of this issue, even though the inspection is made regularly. Sometimes the crack may go unnoticed. Because of this the train accident or derailment may occur. In order to avoid this situation and automate the railway crack detection has been proposed. Here IR sensor is used to detect the crack in the railway track and detect the obstacle presence in the track, here we are Using Arduino microcontroller. This project pertains to a process for monitoring the condition of rail on train tracks and more specifically has the object of the identification of defects detected by IR sensors on the tracks to be checked to allow maintenance crews to subsequently find these defects. The 3 D model will be drawn with the help of CATIA software. All the components will be manufactured and then assembled together. After making the assembly, the experimental testing will be carried out. After the testing, the result and conclusion will be carried out.*

Keywords: Arduino microcontroller, IR sensor, CATIA software, GSM module, AVR Controller, D.C. Motor, etc.

I. INTRODUCTION

Depending on the fast developments in railway systems, high-speed trains are used, and rail transportation is increased day by day. Today's most of the people uses railway for transportation, it is essential for transferring the goods and passengers from one place to another place. And also, the railway system is provided facility such as high speed, with economical, environment friendly, safety, and better characteristics of railway systems. These

141.A Study of Investment Pattern of the Investors by Dr. Vaibhav Kale, Ms. Yashashree Kendre, Dr. Charulata Kulkarni

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A Study of Investment Pattern of the Investors

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Student, NBNSSOMS/ SPPU[2]

Abstract: *Investment is the employing the funds on assets which aims at earning income or capital appreciation. Investment is putting your money in order to earn more money or in other words it is sacrificing of money today for future return. For the provision of financial future, Investment is playing an important role, as in the future is uncertain and unpredictable. Well planned investment results in satisfaction for safety and surety of life. There is some risk associated with any kind of investments for example stock, financial sector, real estate, bullion, banking, gold, capital market etc. Investment benefits both economy and the society. In two days, scenario there has been a major change i.e., economic prosperity all over. Higher income levels and booming stock markets have led to more and more surplus. There are wide products which are Equity, insurance & Mutual Fund etc. Financial investment is employment of funds in the forms of assets in order to earn additional income to get an appreciation in the value of investment in future. The investment in the Assets is subject to safe and risky. Thus, some investments are life insurance, company deposits, bank deposits, post office certificates, mutual fund, chit fund and real estate and so on, yields only income. Some Investments are easily transferable and marketable and those are government securities listed on a recognized stock exchange. Some investments are risky investments whose values fluctuate and returns are uncertain. Thus, investment in proper asset is expected to yield income in the form of interest along with appreciation in their values.*

Keywords: Investment, Portfolio Management, Insurance, Mutual Fund, etc.

I. INTRODUCTION

1. Investments

Investor's risk tolerance, amount invested, investment horizon are considered to be some factors. Some of the most important include the for a young investor with limited funds, mutual funds or exchange- traded funds may be appropriate portfolio investments. For a high net worth individual, portfolio investment may include stocks, bonds, commodities, and rental properties.

Some of the pension funds and annuities funds are Portfolio investments for the largest institutional investors

142.A Study of Mobile Banking Services in Banking Sector by Mrs. Jyoti Howale- Shinde, Miss. Surabhi P.Bhosale, Miss. Revati Paikekar, Mrs. Ankita Jeewankar, Mr. Sachin Bagate

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A Study of Mobile Banking Services in Banking Sector

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Abstract: *Mobile Banking is a Banking Service that enables its customers to carry out financial transactions with the help of mobile device such as smartphones or tablets. It is one important product of Green Banking and is easy and convenient for its customers. Mobile Banking is available for 24*7. It provides various helpful services such as online money transfer, balance inquiry, SMS Alerts, Online Bill payments, etc. This study includes mobile Banking services and its usage by customers in day-to-day life.*

Keywords: Mobile Banking, Services, Usage, etc.

I. INTRODUCTION

Technology has always been one of the most major drivers for the revolution in Indian Banking Industry in term of its functioning, procedures, products and structure. Traditional branch has been taken over by technology-lead delivery channels suiting to the ever-growing demands of coming generation bank customers in terms of time, space and convenience. It began with the initiation of ATMs which noticed increasing trends of customers visiting and line up at the ATM for simple account information or balance enquiry which began to add to the costs of constructing a greater number of ATMs. Then Internet Banking was introduced which became immense popular but had limited usage to home, office computers or laptops which were less movable. Banks then looked out for a solution which could suit the advantage of customers and make them avail the banking services readily at their fingertips and could travel with them without adding any extra stuff. This led to the introduction of mobile banking which modified the tool "mobile" from a mere medium of exchange of information to an effortless medium for operating banking transaction anywhere at any time.

In the new arena the smartphones have become an essential part and also an inseparable tool of lives of majority human beings especially the rising generation so much so that they can't think about a single moment to do without their smartphones. The mobile phone has enormously affected people's social and economic lives and

143.A Study of Consumer Buying Behaviour in Solar Energy by Dr. Reshma Kabugade, Prof. Avinash Dandavate, Mr. Akshay Jorwar

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A Study of Consumer Buying Behaviour in Solar Energy

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Abstract: *On the very first day of the internship, we had an induction program where we get all the information about the company like established year products offered journey of the company etc. Then we had a Q&A session regarding any queries or anything else. The reason for selecting the project named: "A STUDY OF CONSUMER BUYINGBEHAVIOR IN SOLAR ENERGY IN SANCHAY SOLAR This study aims at studying consumer buying behavior of solar energy equipment's buyers and their responses towards it. Consumers' participation for the use of non-conventional energy sources is low in Maharashtra. Government too delivers grants and tax incentives for endorsing solar energy uses in India. So, in this study effort to assess the equal of consciousness for the solar energy in Maharashtra state, find out the insight for procurement of solar products with reference to numerous entities in Maharashtra state like Separate household, Industries, Hostel and hospitals. This study will be useful to comprehend the government to frame policies for promoting the solar energy products. It is valuable to understand the manufacturer of solar products for understanding the essential of the consumers The study is related to consumer buying behavior for solar energy equipment. This study highlights various facts about the consumer buying behavior and the responses of the consumers towards use of solar energy equipment. In this study, researcher had analyzed the causes of poor response to solar energy equipment, studied the reasons for failure of marketing communication in attracting consumers towards the solar energy equipment.*

Keywords: Solar Energy, Solar Power, Solar Panel, Solar Inverter, etc.

144.A Study of Soft Skill in the Development of Human Resource by Mrs. Jyoti Howale-Shinde, Miss. Surabhi P. Bhosale, Miss. Revati Paikekar, Mrs. Ankita Jeewankar, Mr. Sachin Bagate

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A Study of Soft Skill in the Development of Human Resource

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Abstract: *Current scenario of market is changing day by day; Business needs are upgrading accordingly we also need to upgrade as employee and employer. In this changing corporate world soft skill is a key to success to achieve personal growth or to upgrade oneself according to market. The reason to research on soft skill is to gain more knowledge about this topic and to know current importance of soft skill in every field.*

Keywords: Soft Skill, Human Resource, Development, etc.

I. INTRODUCTION

Soft Skill is more related to define that person his nature as a human being. Some sociologist says soft skill also describes as a person's emotional intelligence. Having soft skill means how one person interact with others how effectively he takes decision in particular situation. How effectively he communicates with people. Hard skill is related to person's technical skill set which is to be performed with given job role, soft skill is interpersonal skill which is applicable and useful in all over the industries. In corporate world having hard skill is appreciating but having soft skill is value added thing. Hard skill helps to clear or to get selected for the job, but soft skill helps to survive in corporate world, with having soft skill helps to stick with the job for a long time. In various organization they provide various training and development programs to their employees to increase the soft skill and to make them enough capable to face any changes in market. This type of organizations makes remarkable growth and achieves their objectives.

Why soft skill is important?

Various soft skill considered an important toolkit for every employee. in a highly competitive market, the business who concentrates more on human skill can achieve success. Soft skill is not only vital for business but also for

145.A Study of Recruitment and Selection Process at Emcure Pharmaceutical Ltd by Dr. Meeta Meshram, Dinkar Hajare, Ms.Anjali Shinde

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A Study of Recruitment and Selection Process at Emcure Pharmaceutical Ltd

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Dnyanganga College of Education/SPPU, India[2]

Abstract: *Due the tremendous changes in the industry and globalization recruitment and selection procedures have become a major function in the HR department. Recruitment and selection procedure is responsible for rapid organizational growth. The core function of an organization has become recruitment and selection as the organization wants talented employees that might have the potential for long-earned goodwill or corporate image and also reduce heavy recruitment costs on them. The study also determines on how the organization carry out the on the process of recruitment and selection. Data analysis is done with the help of table, Chart, diagram.*

Keywords: Recruitment, Selection, Reference, Qualification, etc.

I. INTRODUCTION

Management is the primary force within any organization which coordinates the activity of its various system and relates them to environment. The need for management arises out of resource that satisfy human wants and out of the diversity and complexity of human activities. To accomplish the objective of any organization they should be an effective coordination and utilization of these human and human resources. The success of the management in any organization is mainly due to selection and utilization of human resources to achieve its goals economically. In early days recruitment was carried out by recommendation which affected working of company, but now a days due to advanced techniques of recruitment has made companies to work effectively and efficiently. Staffing has played an important role in recruitment procedure.

A right person is recruited at the right time at right place has reduced financial as well as operational risk. Majority of the candidates as selected with the help of internal sources. Whenever vacancy occurs candidates are selected with the help of sources like employee's recommendation, transfer, promotion etc. rest of the selection is carried on with the help of external sources like casual application, employment agencies and labour unions.by the HR