5th International Conference On

Communication And Information Processing (ICCIP)

09 - 10 June, 2023

ELSEVIER SSRN

tomorrow's research today

ICCIP 2023

Organized By

NUTAN MAHARASHTRA VIDYA PRASARAK MANDAL'S (NMVPM'S)

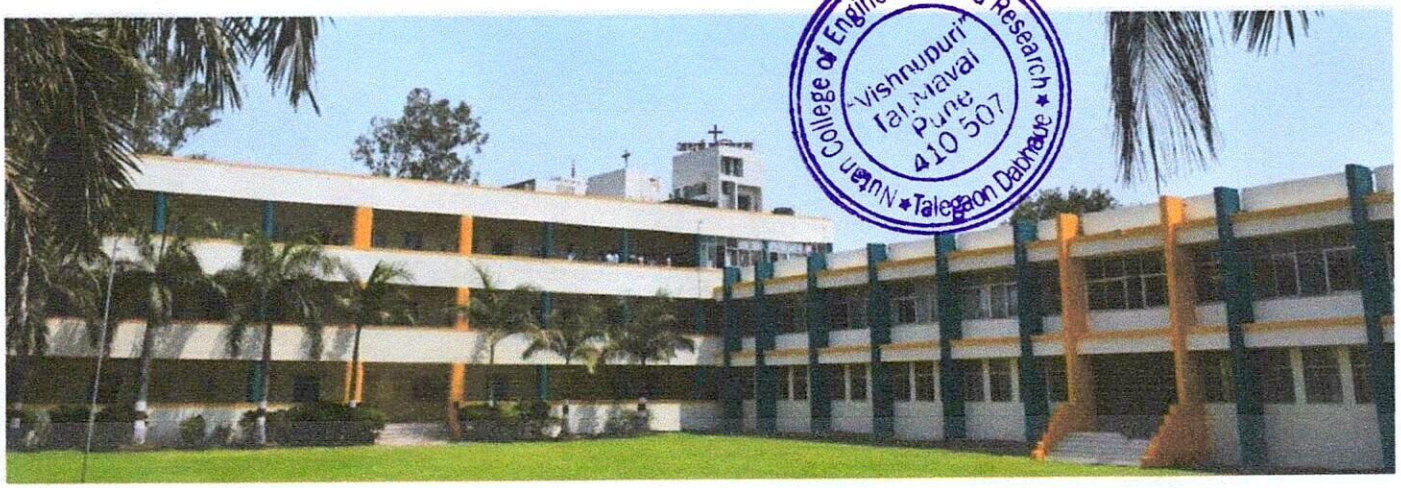
NUTAN COLLEGE OF ENGINEERING & RESEARCH (NCER)

TALEGAON DABHADE, PUNE - 410507, INDIA

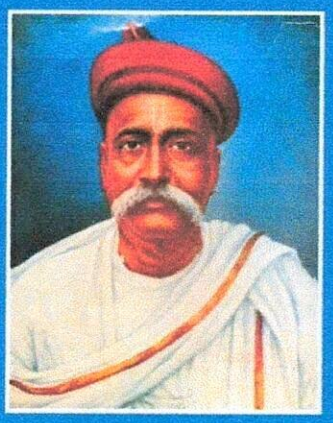
Under Management Support of Pimpri Chinchwad Education Trust (PCET)

Approved By AICTE- New Delhi, Government of Maharashtra and DTE Mumbai

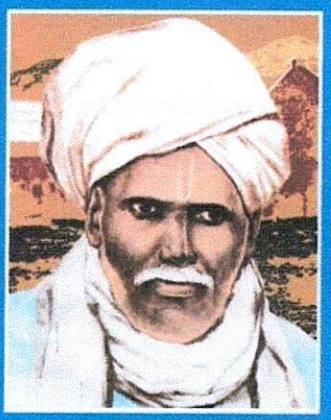
Affiliated To Dr. Babasaheb Ambedkar Technological University (DBATU), Lonere



Our Inspiration



Lokmanya Bal Gangadhar Tilak



Annasaheb Vijapurkar

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Sr. No.	Name	Designation
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2	Mr. Chandrakant Shete	Member
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4	Mr. Nandkumar Shelar	Treasurer
5	Mr. Yadvendra Khalde	Member
6	Dr Girish Desai	Executive Director
7	Mr. Dipak Jadhav	Committee Secretary
8	Mr. Sureshbhai Shah	Invitee Member
9	Mr. Maheshbhai Shah	Invitee Member
10	Mr. Vinayak Abhyankar	Invitee Member

Dr. Babasaheb Ambedkar Technological University

(Established by Government of Maharashtra and Governed by Dr. Babasaheb Ambedkar Technological University Act No. XXIX of 2014)

Vidyavihar, Lonere – Raigad 402 103 (Maharashtra)

www. dbatu.ac.in

Dr. S. B. Deosarkar

Professor, DBATU

It gives me an immense pleasure to know that the Fifth International Conference on Communication and Information Processing (ICCIP- 2023) is organized by Nutan College of Engineering & Research, Pune (Maharashtra)-India from 9th to 10th June 2023 under the aegis of Dr. Babasaheb Ambedkar Technological University, Maharashtra.

With the advent of new technologies in the field of Engineering and Management, it is necessary to bring all the scholars at one place to exchange varied methodologies in the discipline.

I am sure, this conference will benefit to the academicians, researchers, scientist, and policy makers of Engineering and Management. Further to it ICCIP 2023 undoubtedly provide the platform to showcase and recognize the outstanding research capabilities of the young researchers.

I express my sincere gratitude to the various Experts and Keynote speakers and Technical Program Committee for their erudite expertise. I must take this opportunity to congratulate the delegates and participants for their significant contribution at ICCIP - 2023.

I wish ICCIP - 2023 a Great Success!

Dr. S. B.Deosarkar

Nutan College of Engineering and Research * Vishnupuri Tal. Maval Pune 410 507 * Talegaon Dabhade

Nutan Maharashtra Vidya Prasarak Mandal's

NUTAN COLLEGE OF ENGINEERING AND RESEARCH

DTE Code- EN-6419
Under Administrative Support of Pimpri Chinchwad Education Trust
(Approved by A.I.C.T.E,New Delhi, Govt.of Maharashtra & Affiliated to DBATU,Lonere)
"Vishnupuri", Talegaon Dabhade, Tal-Maval, Dist-Pune-
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Shri. Sanjay (Bala) Bhegade (Ex. Minister)	Shri. Ganesh Khandge	Shri. Santosh Khandge	Dr. Aparna Pande
President	Vice President	Secretary	Principal

Ref.No.: NCER/2022 -2023/

Date: 09/6/2023

General Chair's Message

It gives me immense pleasure to announce that the "5th International Conference on Communication and Information Processing (ICCIP-2023)" is organized by Nutan College of Engineering and Research (NCER), Pune from 9th to 10th June 2023.

NCER-started in 2018, is an industry and skill based engineering college which offers B.Tech. degree in Engineering and Bachelor of vocational degree (B.VOC). NCER provides practical & industry based learning and has MoU with 140+ industries.

This conference will provide a forum to academic researchers, practicing engineers and industry experts to present and discuss their recent work, technical advancement and new products. The thrust of the conference is to initiate a global discussion on the next generation technologies to ease the life of mankind, irrespective of their social and economical status. I am sure; this conference will benefit all the attendees. I express my gratitude to various experts and key note speakers for their scholarly expertise.

I am also grateful towards delegates and participants for their significant contribution in research papers. I am indeed thankful to the management of Nutan Maharashtra Vidya Prasarak Mandal (NMVPM), Pimpri Chinchwad Education Trust (PCET) and Dr. Babasaheb Ambedkar Technological University (DBATU, Lonere) for giving the opportunity to organize the international conference. I wish, the conference a great success.

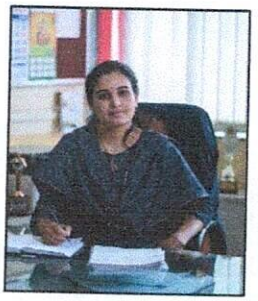
Dr. Aparna Pande
Principal

The Conference

General Chair

Dr. Girish Desai
Executive

Conference Chair



Dr. Aparna Pande
Principal, NCER

TPC Coordinator

Dr. Brijesh Iyer
DBATU, Lonere

Conference Chair

Dr. Digvijay Patil
Dean R&D, NCER

Preface

Dear Distinguished Delegates and Guests

5th International Conference on Communication and Information Processing (ICCIP-2023)" is organized by Nutan College of Engineering and Research (NCER), Pune from 9th to 10th June 2023.

We take this opportunity to express our deep gratitude to the speakers of keynotes and invited talks for accepting our request to share their words of wisdom. We also thank the reviewers and session chairs for their support. Let us thank the authors and delegates for their contributions and presence.

We are extremely grateful to Hon. Shri. Krishnarao Bhegade, Shri. Sanjay Bhegade, Shri. Ganesh Khandge, Shri. Santosh Khandge, Shri. Nand kumar Shelar, Shri. Rajesh Mhaske, Shri Ramdas Kakade for their patronage and support from time to time.

Thanks are due to the administrative staff of the University for their Support. Finally, we have no words to thank all our colleagues, members of various committees, all the student volunteers, and research scholars without whose unflagging enthusiasm and delight efforts, this conference would not have seen the light of day.

We pledged to take this conference series to the greater heights in the years to come with the aim to put forward the need based research and innovation.
Thank you one and all.

Program Chair
Dr. Aparna Pande
Dr. Digvijay Patil

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Dr. Pravin Prajapati, Gujrath Tech. University, Gujrath
Dr. R. R. Manthalkar, SGGSIE & T, Nanded.

Organizing Committee :

Chief Guest

1. Full Name : Shri. Hasmukh Rawal
2. Designation : Promoter and Managing Director at Mylab Discovery Solutions Pvt. Ltd.
3. Educational Qualifications: MBA , SPPU Year: 2012 M.Sc. (Medical Biotechnology) PIMS Year: 2008 B.Sc. (Biotechnology), Dr D. Y. Patil Vidyapeeth, Year: 2006
4. Projects : Developing Next Generation Marketing Strategies for Life-Science Market Segment Developing Next Generation Marketing Strategies for Life-Science Market Segment Oct 2011 - Apr 2012Oct 2011 - Apr 2012 Associated with University of Pune Associated with University of Pune.

KeyNote Speaker

1. Full Name : Nalbalwar Sanjay Laxmikant
2. Designation : Professor & Head,Department of Electronics & Telecomm. Engg. Director, Innovation, Incubation & Entrepreneurship Chairman, Board of Information and Communication Technology TEQIP-III Coordinator
3. Address : Department of Electronics & Telecomm. Engg. Correspondence Dr. Babasaheb Ambedkar Technological University, Lonere Tal: Mangaon Dist.: Raigad, M.S., India Pin: 402103 Phone: 8793814621
4. E-mail ID : slnalbalwar@dbatu.ac.in, nalbalwar_sanjayan@yahoo.com
5. Nationality : Indian
6. Educational Qualifications: B.E. (CSE), SGGSC E & T Nanded, Year: August 1990 M.E. (Electronics Engg.), SGGSC E & T Nanded, Year: Jan 1996 Ph.D (Signal Processing), IIT Delhi, Year: August, 2008.

Our Distinguished Reviewers

Name	Affiliation
Dr. Santosh Kumar	Graphic Era University, Deharadon
Dr. Chandrakant Guled	IIIT Pune
Dr. Leeladhar Malviya	SGGS Tech. Indore-MP
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Prof. Mukund Kulkarni	Dr. BATU, Lonere
Prof. Niranjan Kulkarni	Orkid, Solapur
Prof. Ameet Mehta	Pillai CoE, Mumbai
Prof.Amit Naik	Dr. BATU, Lonere

Our Distinguished Reviewers

Name	Affiliation
Dr. Anant Bagade	PICT , Pune
Dr. Sandeep Kaushik	DRDO, Deharadon
Dr. Pranav Nerurkar	VJTI, Mumbai
Dr. Roshani Raut	DYpatil , SOET, Charoli, Pune
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Dr. Nitin Naik	YM Nanded
Dr. S. B. Thorat	ITM Nanded
Dr. Durgaprasad Gangodkar	Graphic Era University, Deharadon

5th International Conference on Communication and Information Processing (ICCIP) 2023

Nutan College of Engineering & Research, Talegoan, Pune, Maharashtra

9th June 2023 – 10th June 2023

The Schedule

Day & Date	Time	Event
Day 1 **9th June 2023**	09:00 AM to 09: 30 AM	Arrival of guest and Breakfast
	09:30 AM to 11:00 AM	Inauguration of ICCIP 2023 Inaugural Talk by **Mr. Hasmukh Rawal** MD Mylab, India. Chief Guest, ICCIP-2023
	11:00 AM to 12:00 PM	Key note Speech **Prof. Dr. Sanjay L. Nalbalwar** Dean (Academics-FoE&T) Director, Innovation, Incubation & Entrepreneurship Chairman, Board of Information and Communication Technology. TEQIP-III Coordinator
	12:00 PM to 01:00 PM	Lunch
	1:00 PM to 5:00PM	Virtual/Offline Six parallel Paper presentation sessions
Day & Date	Time	Event
Day 2 **10th June 2023**	10:30 AM to 12:30 PM	Virtual/Offline Six parallel Paper presentation sessions
	12:30 PM to 1:15 PM	Lunch
	1:30 PM to 5:00PM	Virtual/Offline Five parallel Paper presentation sessions

ICCIP Schedule

Day 1 – Track 1: Image Processing & Computer Vision			
Date: 09-06-2023	**Time: 2 PM TO 5 PM**	**Google Meet Link:** https://meet.google.com/odj-ixqw-nnx?pli=1	
Volunteers 1) Devarth Patel - 8291610189 2) Princy Patel- 9272189164		**Session Chair: 1)Prof. Amol Sonawane 2) Prof. Swati Shinde**	

Sr. No.	Paper ID	Title of the Paper	Authors
1	**1**	Text extraction and detection from images using machine learning technique	Ajay kumar, Gudapati Supraja, Mr.Panthagani Vijaya Babu
2	**9**	A Review on Medical Image Segmentation Techniques	Yogesh S.Bahendwar, Dr. Dolly Thankachan
3	**18**	Exploring Adversarial Attacks and Countermeasures in Image Classification and Object Detection: A Survey	J. L. Amritasree, Prathibhamol C.P
4	**21**	Application of Fusion Enhancement for Underwater Images	Chaitanya Thapliyal, Utkarsh Singhal, Amitoj Birah, Dipender Singh
5	**36**	Design and Implementation of Hand Gesture Assistant Command Control Video Player Interface for Physically Challenged People	Vinay Ankushe, Chirag Mali, Bushra Sayyad, Ashwini Navghane, Shailesh Kulkarni*, Pravin Gawande
6	**46**	The art of deep learning and natural language processing for emotional sentiment analysis on the academic scholars' peer review process	
7	**54**	Big Data Enabled Intrusion Detection with Honeypot Intelligence System on Apache Flink (BDE-	Akshay Mudgala , Shaveta Bhatiab

		IDHIS)	
8	**66**	A Simple Translation System Using A Machine Learning Algorithm	Dr S Sangeethapriya, Kavyashree Nagarajaiah, Narender Chinthamu, Prof Ashish Sharma, Dr. A. Kakoli Rao
9	**80**	Image Quality Assessment Using Vision Transformer	Shrid Jadhav Patil, Harshada Shinde, Swapnil Deoraye, Akanksha Shelke, Pravin G. Gawande, Yogesh H. Dandawate

Day 1 – Track 2: AI, ML, CS and Deep learning

Date: 09-06-2023	**Time: 2 PM TO 5 PM**	**Google Meet Link:** https://meet.google.com/kbb-ovfv-zdd
Volunteers: 1) Pratik Gade - 7715897053 2) Yash Desai - 9860639222		**Session Chair: 1) Prof. Priyanka Vyas 2)Prof.Anuradha Thakre**

Sr. No.	Paper ID	Title of the Paper	Authors
1	**2**	Active Sense - Live Human Activity Recognition Using Deep Learning	Ankit Suman, Abhay Kumar, Gopichand Katuri, Prof. D. Venkatesulu
2	**3**	DIGI PARKING SYSTEM	Ritik Bansal, Ritik Tyagi, Rishabh Suyal
3	**5**	Accuracy, Memory, Runtime and computational performance Analysis of Classifiers	M. Farhan Shahid
4	**12**	Predictive model in Zeolite Blended concrete strength computation using regression Analysis in Python	Sushant Waghmare
5	**14**	Survey Paper on Natural Calamity Detection using Deep Learning	
6	**15**	EfficientNet-B6 model-based transfer learning for the classification of brain tumors	Surajit Das, Rajat Subhr, Goswami, Lavanya G, Binoy Sasmal, Sangem Jaya Prakash
7	**20**	Computerized Detection and Classification of Tumor using Deep learning	Rishu, Laxman Singh, Nidhi Sharma, Kanika Jinda
8	**27**	Exploring Big Data Analytics in Social Networking Sites	Priyanka, Dr. Manjit Singh
9	**30**	DNA Classification Using Machine Learning	Vedika Kadolkar, Purva Dhamodikar,Shreya Pingale, Kausin Sayed, Ankita Sarnaik
10	**35**	Multiple Disease Prediction System Using Machine Learning Algorithms	Dr. Rajesh Rohilla, Animesh Anand , Anshul, Deepak Kumar Poonia

11	**43**	Attribute-based Hybrid Encryption for Efficient Channel Security with Privacy Preservation: The CSAEPP Approach	Madhavi Tota, Dr. Swapnili Karmore
12	**45**	Mental Illness Prediction using Machine Learning Algorithms Falguni Wani, Ved Deore, Shivam Gorane, Santosh Chobe, Swati Nikam	Falguni Wani, Ved Deore, Shivam Gorane, Santosh Chobe, Swati Nikam

Day 1 – Track 3: IOT, Embedded Systems		
Date: 09-06-2023	**Time: 2 PM TO 5 PM**	**Google Meet Link:** https://meet.google.com/yks-mqph-gwo
Volunteers: 1) Vinay Kamble - 7666474503 2) Krutika Pawar - 8551880152	**Session Chair: 1) Prof. Shweta Narula 2) Dr. Sagar Joshi**	

Sr. No.	Paper ID	Title of the Paper	Authors
1	**11**	Smart Wearables: Trends and Challenges	Shriyanshi Singh, Yashika Tyagi , Sangeeta Mangesh
2	**22**	Gyro Messenger using Arduino Uno	K. P. Kamble
3	**23**	Intelligent IOT System for Smart Environmental Monitoring	Mr. Yogesh N. Thakare, Aarti M. Karandikar, Mr. Vicky Butram
4	**25**	Intelligent IOT System for Smart Environmental Monitoring	Sulekha Kaushik, Dr. Sumit Kumar Mishra
5	**32**	Unlocking the Potential of Block chain and AI for Pandemic Preparedness and Response	Iraq Ahmad Reshi, Sahil Sholla, Adil Bashir
6	**39**	Skin Disease Classification Using CNN	Paramjeet Singh, Ardhendu Neogi, Nipun Sharma, Dr.Tarun Maini
7	**40**	Low-Cost Ventilator with IOT Live Data Monitoring	Ayush Bhalekar, Adesh Khedekar, Abul Khasim, Prajwal Jogdand, Dr. Madagonda K. Biradar
8	**52**	Data Privacy Issue In Beyond 5G SIoT Network	Swati S. Roy, Shatarupa Dash, Bharat J.R. Sahu
9	**71**	Renewable Energy Powered Weather Monitoring System using IoT	Shivam Kaushik, Prof. Radheshyam Saha, Shresth Srivastava, Krishna Dutt

Day 1 – Track 4: Mechanical and Electric Vehicle		
Date: 09-06-2023	**Time: 2 PM TO 5 PM**	**Google Meet Link:** https://meet.google.com/odj-ixqw-nnx?pli=1
Volunteers: 1) **2)**		**Session Chair: 1) Dr. Vikas Yadav** **2) Dr. Randive**

Sr. No.	Paper ID	Title of the Paper	Authors
1	**8**	IMPROVING REGENERATIVE BRAKING OF ELECTRIC VEHICLE USING SUPERCAPACITORS	Aakash, Ansh Verma, Ashish Kumar Singla
2	**10**	Entrepreneurship: A rising way leading to economic development in Bangladesh	Nargis Sultana, Kazi Saifur Rahman, Rejaul Karim, Shakil Ahmad
3	**16**	Design of Smart Mechanisms for the Utilization of Piezoelectric Power	Karan Pathania, Viraj Sharma, Kamlesh Pandey, Gaurav Yadav
4	**28**	Investigation of Optimization Machining Parameter for POM (POLYOXYMETHYLENE) while using TNMG Insert by Taguchi ANOVA	Milind Ovhal1, Dr. Jai Bahadur Balwanshi
5	**29**	Vehicle tracking system with accidental alert	Tejas Mesta, Parth Chittawar, Avanti Wavhal, Prof. Snehal Khoparde
6	**31**	Automated AI Based Road Traffic Accident Alert System	Vishal Choudhary, Shriraj Kanase, Swapnil Lad, Yash Mane, Vijay Kotkar
7	**34**	POWER OPTIMISATION SCHEME OF INDUCTION MOTOR USING FLC FOR ELECTRIC VEHICLES	
8	**68**	Role of Battery Management System on the Performance of Electric Vehicles	Dr. Puran Singh, Venkata Satya Rahul Kosuru, Dr. Anurag Shrivastava, Yogendra Kumar, Rajbhadur Singh
9	**70**	Shape Memory Alloys for Aerospace Application	Dr K.Senthilkumar, Oluwadare Joshua OYEBODE, Aman Sharma, Vandana Kumari, Vikram Sing

Day 1 – Track 5: ICT and Emerging Technologies			
Date: 09-06-2023		**Time: 2 PM TO 5 PM**	**Google Meet Link:** https://meet.google.com/ujx-kuod-jak
Volunteers: 1) 2)			**Session Chair: 1) Dr. Ashwini Shinde, Associate Prof., NCER 2) Dr. Birajdar**
Sr. No.	**Paper ID**	**Title of the Paper**	**Authors**
1	**4**	Detect and Retrieve Temperature Values of Gas Leaks in Oil Industry using Arduino Uno	
2	**6**	Building a Chabot using Natural Language Processing	Daksh Malik, Vishwam Khare, Uday Sehgal, Shweta Bhardwaj
3	**7**	Contract/Tendering System using Block-chain	Ritu Pawar, Saharsh Wasnik, Sanjay Jengthe, Shreyash Gondane, Shubham Paunikar, RutujaPohare
4	**13**	Review on Optimization of Energy Efficiency in Wireless Communication	Snehal Koparde1 , Dr. Anil Nandgaonkar2 , Dr. Abhay Wagh3
5	**19**	Unveiling the Evolving Landscape: A Survey of Recent Challenges and Security Issues in E-Learning	Milind Shah, Kinjal Gandhi , Kinjal Gautam , Vraj Patel
6	**33**	Contextual Search Techniques: A Comparative Analysis and Future Directions	Vaibhav Verma, Arslan Khan
7	**41**	Digital Transformation in Education: A Bibliometric Analysis	Ankita Singh, Nitin Garg
8	**42**	A Survey on ZigBee Technology	Harshita Jha, Surinder Kaur
9	**65**	A Website for Agriculture Products and E-Commerce	Dr Ashok Kumar Koshariya, Dr Deewakar Barar, Dr. Arun Pratap Srivastava, Neeraj Varshney, Akhilesh Kumar Khan

Day 2 – Track 1: Image Processing & Computer Vision			
Date: 10-06-2023		**Time: 10.00 AM to 12.30 PM**	**Google Meet Link:** https://meet.google.com/yks-mqph-gwo
Volunteers: 1) 2)		**Session Chair: 1)Prof. Sanjeevkumar Angadi 2) Dr.Sonali Patil**	
Sr. No.	**Paper ID**	**Title of the Paper**	**Authors**
1	**64**	Sign language recognition	Ashay Chaudhari, Avdhut Barbole , Ketan More , Yash Bagul , Shivam Rokade
2	**81**	Bird Species Image Identification using Deep Learning	Atharva kulkarni, Animesh Tade, Suyog Sulke, Sameer Shah, Dr. Aparna Pande
3	**84**	Attendance Monitoring system using face recognition	Sanika Kulkarni, Palak Shrivastava, Pushpa Latha Bodineni, Nandini Ambhore, Deepti Choudhari
4	**90**	Real time video processing using croma key (green screen) effect	Prasad Dhore, Jagruti Shimpi, Priyanka Patil, Pratik Shringarpure, Shreya Mane
5	**99**	Sign language recognition	Tanaya Ingle , Shwetali Daware , Neha Kumbhar , Komal Raut , Prof. Prachi Waghmare.
6	**97**	Modern Threat Detection Systems: Leveraging yolov7 Computer Vision Model for High-Performance Detection of Fire, Violence, Weapons and Accidents	Rohit Dighea, Vinayak Dhorea, Swapnil Kadama, Aditya Padulea
7	**98**	Thermal Image Processing for Disease Detection in Animals	Hritika Kamble, Shobha Waghmare, Shrijay Nandgaonkar, Manasi Dahibavkar
8	**100**	A Survey on Image Steganography using LSB Algorithm	Deepti Chaudhari, Hetvi Patel, Anushri Ghosh, Neha Patil, Vikas Pawar5 Yogesh Sonawane

9	**105**	Traffic Sign Detection and Recognition in Difficult Weather Conditions	Stephen Mascarenhas, Vaibhav Kolpe*, Pratik Shinde, Ankita Tapase, Dr. Aparna Pande

Day 2 – Track 2: AI, ML, CS and Deep learning			
Date: 10-06-2023	**Time: 10.00 AM to 12.30 PM**		**Google Meet Link:**
Volunteers: 1) 2)		**Session Chair: 1) Dr. Prasad Dhore 2) Prof.Ashish Manvatkar**	
Sr. No.	**Paper ID**	**Title of the Paper**	**Authors**
1	**112**	A System On E - Health Care Card Using QR Code	Shweta Vhanmore, Rohan Kalaskar, Tushar Tupkar, Aboli Bhalerao, Sanjeevkumar Angadi
2	**117**	AI and ML in Optical Networking	Sumit Borse, Manasi Choudhari, Sushank Chandekar, Rutvik Chopade
3	**69**	Implementation of the Smart Traffic Management System through Cloud Computing	[1]Dr. Dler Salih Hasan, [2]Dr. Anurag Shrivastava, [3]Hemant Gupta , [4]Rohit Kumar, [5]Akhilesh Kumar Khan
4	**74**	Deep dive into Sentiment Prediction on COVID-19 Related Tweets	Dr.Monalisha Ghosh, Bidisha Patra, Dr.Anirban Chakraborty, Indrajit Pal
5	**95**	3D-CNN Empowered Assistive Machine Learning Model for The Hearing Impaired	Ankit Bansal[1] , Vijay Anant Athavale[2], Amandeep Singh[3], Aditi[4], Moris Adam Shahmiri[5]
6	**101**	A Constructive Literature Review on Disease Diagnosis of Kidney, Heart, Lung and Brain using AI	Perumalraja R, Felcia Liganz Deshna B, Swetha N
7	**107**	Depression Prediction Using Machine Learning	Shivendra Vikram Singh
8	**56**	AI-Enhanced Library Management System	Mr. Neeraj Mate , Mr. Prathmesh Shirsat , Mr. Prathamesh Suryavanshi , Ms. Pratiksha Kude , Mr. Saksham Patel

9	**57**	AI VIRTUAL MOUSE	Mr. Prathamesh Suryavanshi , Ms. Shruti Chavan , Mrs.Priyanaka Vyas

Day 2 – Track 3: IOT, Embedded Systems			
Date: 10-06-2023		**Time: 10.00 AM to 12.30 PM**	**Google Meet Link:** https://meet.google.com/kbb-ovfv-zdd
Volunteers: 1) **2)**		**Session Chair: 1) Prof. Dhammjyoti Dhawase** **2) Dr. Dhawas**	
Sr. No.	**Paper ID**	**Title of the Paper**	**Authors**
1	**126**	Analyzing Load Balancing Techniques for Cloud Computing: Pros, Cons, and Emerging Trends	Sarthak Sharma, Bhavish, Rupinder Singh, Jaskaran Singh, Sanjeev Kumar
2	**131**	Fall Detection for Elderly People with SOS alert	Ajay kumar, Gudapati Supraja, Mr.Panthagani Vijaya Babu
3	**60**	IOT BASED SMART WATER QUALITY MONITORING SYSTEM	Aswale Ashish, Adhav Makarand, Chavan Swati, Tejashree Bhosale, Kirti Ghodke, Ravini Dahiwal
4	**77**	Weather Station Using Iot	Swapnil Gaikwad, Riza Sande, Sakshi Bochare, Digambar Chalkapure, Prof. Sujata Jawale
5	**92**	Revolutionizing Student Engagement: Building a Cutting-Edge Student Interaction System with MERN Stack and Next.js	Kavita Jadhav, Rahul Dange , Roman Thapa , Divyansh Dubey , Shivani Sinha
6	**96**	Online Voting System with Face Recognition and One Time Password	Uma Hombal, Kalpesh Chaudhari, Sanika Utpat, Shruti Yadav, Parth Joglekar
7	**102**	Fake Product Identification by QR Using Blockchain	Dipamala Chaudhari, Nayna Ghatol, Baibhav Saini, Diksha Konale, Jaydeep Adik

8	**103**	Blockchain Based Document Verification System	Vishal Khetavat, Shubhendu Gupta, Pradip Bhor, Vimleshkumar Varma, Prof. Sairabanu Pansare
9	**115**	Empowering Smart Homes: A Comprehensive Integration of IoT and Android App for Home Automation	Aniket Wagh, Nikita Sarje, Prof. Priyanka Vyas, Prof. Dipika Paranjape

Day 2 – Track 4: Mechanical and Electric Vehicle			
Date: 10-06-2023		**Time: 10.00 AM to 12.30 PM**	**Google Meet Link:** https://meet.google.com/kbb-ovfv-zdd
Volunteers: 1) 2)		**Session Chair: 1)Prof. Vishal Birajdar 2) Dr. More**	
Sr. No.	**Paper ID**	**Title of the Paper**	**Authors**
1	**37**	Optimization and NVH analysis of an instrument cluster	Vijay Darade, Digvijay Patil, Madagonda Biradar, Bhushan Pawar,*
2	**38**	Automated Industry Management System	Pradnya Gajare, Ayush Wagh, Pushpraj Rote, Saurabh Borse, Prof. Mujahid Shaikh
3	**44**	Literature Review for Mechanical Drives Trainer Kit	Onkar Dalvi, Akshay Pangare, Yashdeep Jain, Sagar Gaikwad, Prof. Subash Khetre
4	**48**	Design Analysis and Performance Evaluation of Cabot for Liquid Material Handling	
5	**49**	Experimental Investigation of the Machining Process Parameters for Hastelloy C-276	Prof. Subhash Khetre, Pranit Waghmare, Nitin varade, Punit Sonune, Vandana Kapure
6	**50**	A Review: Design, Analysis & Optimization of E-Bicycle	Parag Shahane, Sandip Pawar, Sainath Jadhav , Prof. Anil Yadav
7	**51**	Investigation of Optimization Machining Parameter for ABSAcrylonitrile butadiene styrene while using TNMG Insert by Taguchi and ANOVA	Mr. Kalpesh sonawane, Mr. Shubham chavan, Mr.Akash

			bhavar ,Mr. Mustaq tamoli , Mr.Milind Ovhal
8	**55**	Smart Water Dispenser for Hot & Cold Water	Mayur Ahire, Kalpesh Ingale, Aniket Shelke, Datta Yadav
9	**75**	Integrated Student Database and Attendance Management System with Face Recognition	Siddhesh V Salunkhe, Rakesh P Lad, Shishupal Kumar, Tanishq C Mehta, Prof.R.K.Bhegade

Day 2 – Track 5: ICT and Emerging Technologies			
Date: 10-06-2023		**Time: 10.30 AM to 12.30 PM**	**Google Meet Link:** https://meet.google.com/kbb-ovfv-zdd
Volunteers: 1) 2)			**Session Chair: 1) Prof. Mukund Kharde 2) Dr. Anuj Khond**
Sr. No.	**Paper ID**	**Title of the Paper**	**Authors**
1	**67**	Advancements in Speech Recognition Technology: A Cutting-Edge Tool for Improved Speech Analysis and Interaction	Dr. Anurag Shrivastava[1], Govinda Rajulu, Lanke[2], Aditi Saxena[3], Dr. ALN Rao[4], Mohd. Salim[5]
2	**83**	Efficient Test Case Generation Using Model Based Testing, and Model Paradigm Approach	[1]Dr. Pramod Jadhav, [2]Dr. Vinod H Patil, [3]Dr. Arun Pratap Srivastav, [4]Hemant Gupta, [5]Devendra Singh
3	**108**	Impact of Point Mutation on Shigella Toxin: A Molecular Dynamics Simulation Study	Nisat Tabassum[a], Bristi Rani Paul[b], Md Saddam[c], Md Mostofa Uddin Helal[d]*, Susanta Paul[e]*
4	**109**	A Proposed Algorithm for Open Shop Scheduling Problem with Breakdown Interval, Transportation Time in Fuzzy Environment	Jatinder Pal Kaur[a], Deepak Gupta[b], Adesh kumar Tripathi[c], Renuka[d]
5	**167**	An Insight on different plants in Himanchal Pradesh for their Therapeutic Usage (Antibacterial Activity)	Mayuri Jain*, Anuj Kumar Poonia
6	**82**	Smart Water Supply in Irrigation Using Raspberry Pi	Makarand Kirve, Om Deshmukh, Prasad Kamalekar, Khushaal Fulsunge, Sudarshan Kale, Shital Mehta

7	**120**	Cyber Security	Sumeet Pawar, Anuj Pawar, Mayur Pawar, Rohan Pawar, Sweety Patole
8	**129**	E-Waste Management	Samta pudke, Vaishnavi Pednekar, Prathamesh Podala, Mithesh Pote , Sandeep Pingale.
9	**135**	Programming Languages	Sarthak Satpute, Adil Shaikh, Aftab Shaikh, Irfan Shaikh, Prince Sharma

Day 2 – Track 6: Mechanical and Electric Vehicle		
Date: 10-06-2023	**Time: 10.30 AM to 12.30 PM**	**Google Meet Link:** **http://meet.google.com/skc-gdrf-cwx**
Volunteers: 1) **2)**	**Session Chair:1)Prof. RK Bhegde** **2)Dr. Manoj Kate**	

Sr. No.	Paper ID	Title of the Paper	Authors
1	**139**	**H2 Concept (A Zero Carbon Emission Vehicle)**	Omkar naikwade, niraj nandkhile, ajay nikam, akash mule, rhutuja mohankar
2	**147**	**Neuralink : Crucial Importance of Electronics in the Field of Engineering**	Darsh patil, aditya.k.pagare, vaidehi nirgude, aditya pagare, bhumika patil
3	**148**	**Robotics in Space Exploration**	Snehal paranjape, viraj patil, siddhant pawale, rohit pawar, dnyaneshwar padol
4	**154**	**A Review of Application of Complex Number Used in Real Life**	Shivaji r. Indalkar, komal p. Ingle, anjali r. Jadhav, abhishek k. Jadhav, sakshi m. Javheri
5	**155**	**Rocket Science: The Space Race**	Amit Khatal,Pavan Khare,Shivam Khandve,Gayatri Kharat,Rutuja Khandge, Guided by :prof. Vaibhavi Avachat
6	**157**	**A Review on Hydrogen Fuel Based Vehicles**	Stephen mhetre[a], pranav narwade[a], shweta padir[a], rohan more[a], sarthak nagave[a], prof. Prem kolle[b],*
7	**164**	**Green Concrete to Reduce Global Carbon Emission from Cement Production**	Tanushree behera, hrishikesh bawale, rushi bodakhe, omprakash bidve, viraj bhambure

8	**165**	**Solid Waste Management: A Review**	Prasad Kolte,Vrushabh khot, Priyanshu Khati, Sakshi Kolhe, Shrushti, Vaibhavi Avachat
9	**166**	**Breaking the Taboo: Talking About Sanitary Pads A Review**	Yuvkshi patil, geeta pobbal, obed rozario , gayatri patil, rucha patil dr. Madagonda k biradar.
10	**168**	**Building Intelligent Urban Ecosystems: Unleashing the Power of Smart Cities For Enhanced Livability And Efficiency**	Shantanu shinde, meenal shelar, omkar shelar, jayesh shinde, sarthak shahane
11	**172**	**Electric Vehicles: The Upcoming Change.**	Prajwal dighe, prathamesh dodake, girija dumbre, saurabh doke, emile johny

Day 2 – Track 1: Image Processing & Computer Vision			
Date: 10-06-2023	**Time: 10.30 AM to 12.30 PM**	**Google Meet Link:** https://meet.google.com/kbb-ovfv-zdd	
Volunteers: 1) **2)**		**Session Chair: 1) Prof. Uma Patil** **2) Dr. Ashwini Sapkal**	
1	**113**	**Video Regeneration Using Image Diffusion Model**	Prof. Premanand Ghadekar, Srushtiraj Patil, Dijasmit Patil, Amey Chopde, Hiranmayee Sant, Omkar Bhosale
2	**127**	**Fruit Recognition Using Image Processing**	Sakshi Patil, Kunal Mhaske, Omkar Ghanwat, Rutuja Palkar, Prof. Pankaj Shinde
3	**179**	**Artificial Intelligent and Its Future.**	K.Samadhan, K.Rushikesh, K.Dattatray, K.Omkar, K.Anirudha
4	**183**	**Comprehensive Literature Survey on Retinal Image Analysis for Diabetics-prediction Using Machine learning**	Kavita Jadhav, Aparna Pande, Uttara Varade, Deepti Chaudhari
5	**128**	**Untangling the Mysteries of Artificial Intelligence**	Sham Sambare, Harish Salve, Harshvardhan Sankpal, Shrutika Salve, Tejas Sasane, Shraddha Deshpande
6	**138**	**Neuronlink: An Integrated Brain-Machine**	Meet Modhoriye, Akanksha Mokashe, Nikhil More, Tejas More,Gautami Mudhol, Dr.

			Madagonda K Biradar.
7	**142**	**Data-Science**	Chetan Ghodke, Komal Gawate, Sanket Ganje, Omkar Gargote, Prathamesh Gavandhare
8	**149**	**Data Science with Python**	Nikhil Raghuwanshi, Prajwal Ramse, Priya Ram, Prachi Salunke, Rishi Sinha.
9	**150**	**The Future of Warfare: A Smart AR/VR AI-Driven Helmet for Real-Time Data Analysis and Tactical Advantage**	Atharva, Ashish, Rohit, Venktesh, Sanika
10	**161**	**A Review: Intrusion Dectection System by Machine Learning**	Asmita Bagal, Yugal Bari, Sujal Baviskar, Ranjeet Bayas, Krunal Bhadke, Vaibhavi Avchat Ghardale
11	**169**	**Cyber Security & AI (Artificial Intelligence)**	Nikeetaa Garrade ,Devang Reddy ,Shreya Dhole , Mansi Gaikwad,Abhishek Gaikwad
12	**200**	**Brave Block: User Authenticator**	Prasad Makulwar, Isha Bahadurkar, Dnyaneshwar Jadhav, Appasaheb Korke, Prasad Dhore
13		**Automatic Hand Brake**	Mr. Pavankumar S. Ambuskar[1], Mr. Tathagat R. Wankhade[2], Prof. Vijay Darade*,

Day 2 – Track 2: AI, ML, CS and Deep learning		
Date: 10-06-2023	**Time: 1.30 PM TO 5.00 PM**	**Google Meet Link:** https://meet.google.com/kbb-ovfv-zdd
Volunteers: 1) **2)**		**Session Chair: 1) Prof. Kavita Jadhav** **2) Dr. Bharati Vyavhare**

Sr. No.	Paper ID	Title of the Paper	Authors
1	**58**	**Multiple Disease Prediction Using Machine Learning**	Kalyani W., Mayuri K., Snehal A., Prerana T., Omkar K.
2	**63**	**Advancements in Data Ingestion and Processing Using Hadoop**	Prof. Priyanka Vyas, Dr. Ashwini Shinde, Prof. Dipika Diwase, Mr.Akash Kathole

3	**73**	**Pyro Alert: Fire Detection Using Computer Vision and Alert System**	Ms. Prajakta Sawant , Ms. Aishwarya Jadhav, Mr. Nishiket Waghmode, Mr. Pravin Bansode, Prof Komal Rajgude
4	**85**	**A Study on Skin Disease Detection and Hospital Recommendation System**	Yash Salve, Nikita Dinkwar, Vishal Khile, Aniket Patil, Dr.Prasad Dhore
5	**93**	**Predicting Stock Market Trends with Machine Learning: A Comprehensive Study**	Shivani Chaudhari, Prerna Phalke, Mokshada Borade, Vaishnavi Kumbhar, Kavita Jadhav
6	**94**	**DNA Classification Using Machine Learning**	Vedika Kadolkar, Purva Dhamodikar,Shreya Pingale, Kausin Sayed, Ankita Sarnaik
7	**104**	**Emotion Detection using Deep Learning**	Shraddha Belhekar, Priya Patil, Snehal Hulule, Tanvi Ghare, Dhammjyoti Dhawase
8	**110**	**Heart Disease Prediction using Machine Learning**	Tejaswini Zope, Rutuja Deshmukh, Rutuja Devikar, Ganesh Rathod, Mohfiz Khan,
9	**111**	**Crime Examination and Forecasting Using Machine Learning**	Gayatri Mali, Mahima Kakad, Anchal Shukla, Rohit Patil, Prof. Dipamala Chaudhari
10	**170**	**Artificial Intelligence: A Boon or Curse**	Ashish Khonde khondeashish081@gmail.com Nimisha Kamble Subodh Kamble, Sudarshan Kamble, Anup Kamble
11	**173**	**Artificial Intelligence (Recent Advances and Future Directions or Healthcare)**	Somnath Ghorpade, Omkar Ghule, Kartik Ghungre, Harsh Hadgal, Sandeep Hanumantgola, prof.Archana Yewale

Day 2 – Track 3: IOT, Embedded Systems		
Date: 10-06-2023	**Time: 1.30 PM TO 5.00 PM**	**Google Meet Link:** https://meet.google.com/kbb-ovfv-zdd

Volunteers: 1) 2)	Session Chair: 1) Prof. Ashish Jawke 2) Dr. Gayatri Ambadkar

Sr. No.	Paper ID	Title of the Paper	Authors
1	**116**	**Fire Surveillance System Using Wi-Fi**	Ria Khandelwal, Aman Yadav, Shivratna Ghante , Abhay Bhombe, H S Gore
2	**118**	**Blockchain Based Decentralized Secure Cloud Storage System**	Kshitij Patil, Suraj Madikatla, Chaitanya Chetti, Aniket Dongre, Uma Hombal
3	**121**	**The Dark Web**	Om Shinde, Priya Shelkar, Nilesh Shinde, Vrushali Shelar, Raj Shelar
4	**123**	**IOT Based Automatic Dam Door Opening and Flood Detection System**	Shreya Nake, Indraneel Mahekar, Prof. R R Malekar
5	**124**	**CHATBOTS-Let the Revolution Begin**	Vaidehi Patil, Kirtan Patela, Sumedh Pathak, Shivanand Patil, Asmita Patil, Prasannata Ramtirthe
6	**125**	**Blockchain Based NFT Marketplace**	Prof. Tejaswini Zope, Tushar Bhosale, Vikaskumar Dane, Dhaval Chotliya & Harsh Yallatikar
7	**151**	**Internet Of Things & Its Application**	Pranav Kalea ,Ankita Kakadeb, Nikhil Kadusc,Saloni Kalokhed,Shital Kalekare
8	**152**	**Chat-GPT An AI Chatbot**	Kareena Chinchkar, Chirag Yadav, Gayatri Chopade,Vrushabh Chavan, Pranav Chavan, Prof. Vaibhavi Avachat
9	**153**	**Role of Ai in Cybersecurity**	Vishal Dhake, Shiv Dhakne, Prathmesh Dhawale, Sujal Dhawale, Rutvik Dhore
10	**158**	**Cyber Security Threats to Watch Out**	Abhijeet Bhaisare, Pratik bhoirkar, Nilesh darekar, Mohit Borse, Praful Chame Guide: Ajit Kashid

11	**160**	**Metaverse Unleashed: The Next Frontier of Digital Reality**	Avishkar Wankhede, Gaurav Wande, Jay Wankhede, Jay Wagh, Pallavi Wagh, Prof. Ankush. S. Patil
12	**162**	**A Review Paper on: Internet of Things**	Nishikant kshirsagar,Parth kulkarni,Vaishnavi kukde,suyog kulkarni, Varad K, Prof.Vaibhavi Avchat
13	**171**	**5G Wireless Technology**	Shivam Shinde, Gunjan Sasane, Kshitija, Akshad Shinde, Pawan Singh

Day 2 – Track 4: Mechanical and Electric Vehicle		
Date: 10-06-2023	**Time: 1.30 PM TO 5.00 PM**	**Google Meet Link:** https://meet.google.com/kbb-ovfv-zdd
Volunteers: 1) 2)		**Session Chair: 1) Dr. Biradar 2) Mr. Shripad Vakodkar**

Sr. No.	Paper ID	Title of the Paper	Authors
1	**76**	**Fire Fighting Robot**	Sakshi Patil, Sangmesh Deshmukh, Mehek Talmal, Makarand Gadhe, Utkarsha Devkar
2	**78**	**Face Detection Based Vehicle Ignition System**	Siddhesh Deokar, Rakesh Lad, Prof.Shailendra More
3	**79**	**Anti-Sleep Alarm System for Vehicle**	Vishal Jadhav, Omkar Kachare, Prof. Mujahid Shaikh
4	**87**	**Gear Throttle Lock for Motorcycle**	Ruturaj Dhamale, Niraj Pardeshi, Rohit Kadam, Satyajit Manepatil, Prof.B.S.Pawar.
5	**88**	**Thermoelectricity Generator (Teg)**	Abdulaziz maneri, Sherin david, Shantanu shinde

6	**89**	**Intelligent Braking "Low Cost for EV"**	Harsh Thaokar, Vaibhav Patil, Yash Jagtap, Tushar Maisalge
7	**91**	**A Review: Rack and Pinion Automatic Gate**	Vivek Patil Gaurav Sampat, Anil Yadav
8	**106**	**Driverless Car**	Aditya Rane , Aditya Neve , Bhimashankar Mathapati, Kiran Thote , Komal Sutar, Rajlaxmi Warat
9	**114**	**A Review: Design, Analysis & Optimization of Battery-Operated Swing Arm Two-Way Sprayer**	Shivraj Khude, Saurabh Savle, Yogit Patil,Vishal Thakare, Prof. Ankush.S. Patil
10	**133**	**Renewable Energy Supply and Energy Efficiency Technologies**	Shruti Mungase, Aniket Mule, Om Nagare, Abhishek Nagare, Harsh Mule
11	**136**	**Sanitary Pads Incinerator Machine**	Ganesh mohol, Sourabh dhavan, Sandesh waghule, vaibhav sakore, Prof. Mujahid Shaikh ,Abhishek Darote

Day 2 – Track 5: ICT and Emerging Technologies		
Date: 10-06-2023	**Time: 1.30 PM TO 5.00 PM**	**Google Meet Link:** https://meet.google.com/kbb-ovfv-zdd
Volunteers: 1) 2)		**Session Chair: 1) Prof. M. Shaikh 2) Mr. Vinay Joshi**

Sr. No.	Paper ID	Title of the Paper	Authors
1	**137**	**Exploration Of the Future of Web Development And Emerging Technologies**	Paras Nikum , Isha Padhal, Om Pande, Sakshi Parge, Gajanan Patange
2	**141**	**The Evolution of Computers Sudarshan**	Kakad,Vaibhav Kale, Atharv Kakare, Aditya Kalokhe, Prof.Archana Yewale
3	**140**	**Quantum Computing**	Siddharth Kote, Dnyaneshwar Kshirsagar, Vaishnavi Lahane, Vedant Lambade

4	**163**	**Review Paper of Integration and Its Uses in Daily Life**	Sarthak Shinde,Aditya Rasankute,Pratik Patil,Aditya Shinde,Vaibhav Bhushetty Prof Bhimrao Pandurao Gaikwad
5	**181**	**ChatGPT: Conversational AI Powered By GPT**	Vaishnavi Hankare[1], Vaishnavi Hajare[2], Vaishnavi Hatt[3],Vishal Gutte[4],Shiva Halde[5]
6	**185**	**Design Of Effective Controllers Using Pfc Super Lift Converter for Fed BLDC Motor**	Mr. Mukund Kharde, Mr. Amol Sonawane, Mr.Vishal Birajdar , Aparna Pande
7	**187**		
8	**192**	**Personal Finance**	Saniya Inamadar, Samarth Hattarke, Aditya Honkalas, Pratik Ingle, Shivram Ingole, Prof.Archana Yewale
9	**119**	**Design Modifications Techniques Used in Microchannel Heat Sink for Heat Transfer Augmentation.**	Vikas Yadav, Ankush Patil, Shailendra More, Subhash Khetre
10	**130**	**Consequences And Solutions of Deforestation: India**	Prathmesh Malunjkar, Pranav Mankar, Niraj Matere, Aryan Maurya, Himanshu Meshram, Dr. Prasannata Ramtirthe
11	**132**	**Review On Social Media**	Shraddha Naikare, Vivek Nalawade, Shivani , Sahil Natak, Abhay Navsare.

Day 2 – Track 6: Mechanical and Electric Vehicle		
Date: 10-06-2023	**Time: 1.30 PM TO 5.00 PM**	**Google Meet Link:** **https://meet.google.com/pwd-oaog-ajj**
Volunteers: 1) **2)**		**Session Chair:1)Prof. Milind Ovhal 2)Dr. Shekhar Rahane**

Sr. No.	Paper ID	Title of the Paper	Authors
1	**174**	**Environmental conservation**	Jaydeep Kumbhar, Yash Kumdale, Atharav Lokhande, Kaustubh Londhe, Suraj Kushwaha.
2	**175**	**RC Cars**	Sangit Jondhale, Varad Joshi, Kasturi Jibhakate, Dhiraj javir
3	**176**	**Corrosion**	Harsh Bhakre, Shantanu Bharate, Nikita Bharambe, Vishakha Bhagat, Gargi Bhangare
4	**177**	**Research Review Paper of Complex Numbers in Real Life**	Tushar Gaikwad, Aditi Ghare, Ratnakar Kadam, Niharika Limbekar, Pratik Pal
5	**178**	**Renewable energy resource**	Sagar Kambli , Diksha Kedari , Satish Khalse , Aditya Khade , Sanskar Kendre , Vaibhavi Avachat
6	**180**	**Design Development and Review of Electrical Trainer Kit**	Panjab Terwea, Pravin Bharatia, Laitt Patila, Vaishnav Gholapa, Vijay Daradeb
7	**182**	**Study of Optimization Process -Taguchi Method**	Anil Yadav, Premkumar Kolle, Archana Yewale, Damayanti Ingale, Rupali Jagnade
8	**184**	**Advance Tool Management for Smart Factory**	Shubham Zalse, Lokeh Jaiswal, Devendra Patil, Arati Gane, Mukund Kharde
9	**188**	**Electric Vehicles : An Overview of Technology, Environmental Impact and Market Trends**	Sagar lonkar, Harshal Mali, Manas lonkar, Vaishnavi Mali, Kadambari Malsane, Prof.Vaibhavi Avchat
10	**190**	**Investigation of Optimization Machining Parameter for EN19 while using TNMG Insert by Taguchi and ANOVA**	Komal koyte, Madhuri bansode,Vaishalikalekar, Rishikeshjoshi
11	**191**	**Design & Development of Small Wind Turbine**	Pratik Futane, Prajakta Tekale, Akash Gove, Tushar Bhosale
12	**193**	**A Review of Tribological Performance of Jatropha Instead of Synthetic Oils Using Journal Bearing Tester**	Vikas Kholea, Pranali Jagtapa, Chaitali Dodakea, Amit Kakadea, Prof. Subhash Khetre
13	**199**	**A study of Fuzzylogic in Cognitive Sciences**	Bhimrao Gaikwad
14	**203**		
15		**Robotic Process Automation(RPA) in Data Cleansing**	**Utkarsh Gore**
16		**Studying History with VR**	Prathamesh Kudale, Aachal Khodape, Aastha Khawale, Shrikant Khade, Amay Lohar, Prem Kolle
17		**Home Automation System for Disabled Person**	Mahesh Pawar
18		**Automatic Hand Brake**	Mr. Pavankumar S. Ambuskar[1], Mr. Tathagat R. Wankhade[2], Prof. Vijay Darade

All Tracks Contributes Paper

ICCIP 2023

1
TEXT EXTRACTION AND DETECTION FROM IMAGES USING MACHINE LEARNING TECHNIQUE

Ajay kumar, Gudapati Supraja, Mr.Panthagani Vijaya Babu
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Machine gaining knowledge of is a wealth of artificial intelligence and big increase in studies global. He can research by means of himself, without requesting assist from humans or without any programming based on his previous experience and understanding. Basically, it is able to make its very own selections or are expecting positive responsibilities to be done consistent with an appropriate order of inputs and its installation set. Machine getting to know is implemented in various real-time packages in our each day life. Texture detection and extraction is one of the most critical applications for acquiring valuable facts from images from numerous sources. The text varies in size, orientation, night time, fashion, low brightness or towards pics with complexities. Many human beings have a lesson due to the distinctive forms of textual content within the photos. So text detection and extraction may be very important and hard in recent times. This goal is to help people who communicate different languages from exceptional elements of the sector on the way to effortlessly read and understand what's written in any language. Researchers use a selection of system studying algorithms and equipment to apprehend handwritten text and extract text from photographs to convert them into virtual format. Optical character reputation (OCR) is a device gaining knowledge of approach that helps us to come across and extract statistics or text statistics from a report and convert it into editable and searchable information. This research paper mainly focuses on extraordinary gadget gaining knowledge of methods. Algorithms applicable to extract textual content from handwritten documents, photographs and stumble on them in virtual shape, in addition to for translation according to the user's requirements.

Keywords: Machine learning technique, Optical Character Recognition (OCR), Python

2

Active Sense - Live Human Activity Recognition Using Deep Learning

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Human activity recognition (HAR) is to automatically recognize and categorize human actions using camera data. There are several uses for HAR, including in the fields of security,sports, and healthcare. CNNs has demonstrated encouraging outcomes in HAR in recent years. In this research, a live HAR system that can reliably identify a variety of human activities in real-time is proposed. Data gathering, feature extraction, and activity classification make up the system's three key parts. The system gathers sensor data from wearable technology, pre- processes it, and then utilizes CNNs to extract spatial information from the data. To capture the temporal dynamics of the activity. When CNNs uses real-time activity recognition, including walking, running, sitting, and standing, is very accurate. The suggested technology may find use in many fields where real- time observation of human activity is essential.
Keywords:-Keras, Media Pipe Holistic, Python, Open CV.

3

DIGI PARKING SYSTEM

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Now a days there is confusion in government parking allotment and in private parking space. No parking assurance in certain cases especially when there is too much traffic and crowd. High staff demand required for current infrastructure to work, which is actually a burden on the management. Currently technology is less in use and are not using efficient and economical. The system falls back on security due to lack of technical expertise. The system proposed by us will review the system with high-end technical implementation like space availability in single area. This is attained by using various API, High Definition cameras, powerful Cloud Infrastructure. The installation, management of the parking areas and management of budgets will be made easier. Despite heavy processing on cloud, we will make use of physical sensors which can detect vehicular movement as well as any unusual activity. Cloud infrastructure is used only to store information about parking spaces and to facilitate the current system for payment.

4

DETECT AND RETRIEVE TEMPERATURE VALUES OF GAS LEAKS IN OIL INDUSTRY USING ARDUINO UNO

The proposed method emphasizes the inclusion of temperature sensors in the system. These sensors are strategically placed to monitor temperature levels in critical areas, providing valuable insights into potential fire risks or abnormal thermal conditions. The temperature data is also retrieved and processed by the Arduino Uno, enabling proactive measures to be taken to prevent accidents or equipment failure of human activity is essential.

5

Accuracy, Memory, Runtime and computational performance Analysis of Classifiers

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The handwritten dataset from MNIST is a well-known and reliable tool for the study on various classification solutions. This paper aims to produce comparison among four competing Machine Learning classifiers including a boosting algorithm when fitted on MNIST dataset to predict 0-Image. Accuracy (ACC) of Support Vector Machine (SVM), Stochastic Gradient Descent (SGD), AdaBoost and Random Forest models are evaluated through 3-fold and 10-fold Cross

Validation. Further, performance is measured through precision (PREC), F1-score (F1), recall (REC), PR Curve and ROC. A model has achieved precisely 98.8% of F1 score and 99.9% of AUC for one digit classification without use of deep learning algorithm. It reveals accuracy of 99.77% when tested on test dataset (unseen data) after tuning at optimal threshold. Models are also compared according to run-time and resource utilization (memory and CPU) during training. With such comparison, one may opt desired model according to requirement which can further be fine-tuned for implementation at corporate level.

Keywords: Handwritten digit recognition, Machine Learning, imbalance classification, comparison and binary algorithm

6

Building a Chabot using Natural Language Processing

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Applications known as chatbots can simulate human conversational patterns, engage in human-tohuman communication, and respond to user queries using data from their training set. There are two categories of chatbots: rule-based and self-learning. One of the beneficial things a company or organisation may have is a chatbot. They can be utilised for customer service and query resolution in many different industries. In this paper research is done on Natural Language Processing and a model is designed to build a chatbot using NLP techniques. The chatbot built using this model can be used as a normal conversation bot or as a customer support tool.

Keywords: Natural Language Processing, Chat GPT, Tokenization, API

7

Contract/Tendering System using Block-chain

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Tendering is commonly used by governments and businesses to buy goods or services from manufacturers or service providers. Although etendering is the most popular procurement method, there are a number of security concerns. Due to its emphasis on information decentralization, encryption, and blockbased architecture for transaction management, blockchain technology can be utilized to address these security concerns. In this work, it is investigated how a distributed e-tendering system might be designed using smart contracts (based on the Ethereum block-chain). The project is broken into four components, 1. The process of creating and publicizing a tender, 2. The procedure of accepting bids, 3. The evaluation and negotiation of the bid, and 4. The selection of the winningbid. Each procedure is implemented using a different algorithm. The security and audibility problems are assessed and compared to the present tendering process. The primary goal of this document is to put in place a fair, transparent, and open tendering procedure. All 21st century businesses striving to improve customer service and gain an advantage over the competition rely on information technology as their backbone. Several industries including financial services, agriculture and government are now utilizing block-chain technology.

Keywords— Block-chain, Fair and Open Tendering Scheme, smart contract, Ethereum, e-tender

8

IMPROVING REGENERATIVE BRAKING OF ELECTRIC VEHICLE USING SUPERCAPACITORS

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This paper proposes an approach to enhance the regenerative braking of the TATA Nexon EV by incorporating supercapacitors. The objective is to increase the efficiency of the regenerative braking

system by reducing the energy loss caused by the conventional braking system. In this study, a supercapacitor bank is connected to the regenerative braking system to store the generated electrical

energy. The stored energy can be used to power the vehicle during acceleration, thus reducing the

load on the battery. Simulations were carried out using MATLAB Simulink, and the results show

that the proposed system can improve the energy efficiency of the regenerative braking system.

This approach has the potential to significantly enhance the performance of electric vehicles and

reduce their carbon footprint.

Keywords - regenerative braking, supercapacitors, electric vehicle, battery

9

A Review on Medical Image Segmentation Techniques

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Medical techniques such as Magnetic Resonance Imaging (MRI), Computed Tomography (CT), X-rays and Ultrasound (US) are used to create images of organs in the human body for diagnosis, examination, treatment planning or anatomy study. and pathology. Since its inception, the importance of medical imaging technology in medicine has gained importance. To use medical information effectively, medical images need to be analyzed comprehensively and efficiently. During routine medical procedures, doctors examine images to check for diseases such as cancer. However, viewing images is often not sufficient for diagnosis and treatment, especially in tasks such as surgical planning or radiation therapy planning. Therefore, segmentation and quantitative analysis of anatomical and pathological patterns are important. Also, modern technology allows doctors to create detailed anatomical and pathological volumetric images at high resolution, but the treatment burden of specialists is to increase the (quantitative) image data that needs to be done. Therefore, it is important to evaluate existing image segmentation techniques, especially for medical images that use sensitive and less input-intensive automated algorithms. This study estimates the importance of image segmentation in data extraction for decision making.

Keywords: Ultrasound (US), Magnetic Resonance Imaging (MRI), X-ray, Computed tomography (CT).

10

Entrepreneurship: A rising way leading to economic development in Bangladesh

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The purpose of this paper is to explore the prospects as well as challenges in implementing entrepreneurship in Bangladesh to facilitate economic development. However, a comparative evaluation has also been depicted between job and entrepreneurship to show the better position of the concept. The impact of Covid19 is also taken into account. Primary data has been collected from a sample of 235 respondents from entrepreneurs, employed and unemployed youth. Several hypotheses have been formulated and tested along with the consideration of multiple correlations. A conceptual framework is established which states the factors affecting the emergence of entrepreneurship in Bangladesh. The study aims at evaluating the current status of job market and reasons pursuing the youth towards entrepreneurship as a good means of earning livelihood and playing a role in the economy and society by mitigating the severe problem of unemployment to a great extent Finally, the model depicts all the relevance regarding the fitness and consistency. Overall, entrepreneurship is a rising concept which will play significant role if taken into account with momentousness.
Keywords: Entrepreneur; Job Market; Poverty; Unemployment; Economy; Challenges

11

Smart Wearables: Trends and Challenges

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Wearable devices represent a versatile technology in the IoT paradigm, enabling noninvasive and accurate data collection directly from the human body. This project aims at providing a multiutility smart shirt that identifies and integrates suitable sensing mechanisms responsible for acquiring health vitals for users' safety and protection in hazardous places. The vitals that are implemented include heart rate monitoring, fall detection , hazardous gase sensing and monitoring , GPS based location tracking and providing thermal protection against cold weather conditions. . Sensors such as AD8232 ECG , MPU6050, MQ135 Air Sensor, Neo 6M are being used to incorporate these multifunction smart wearable. The intended design is based on, sample values for sensors, and analysis of the recorded data using Thing Speak analysis tool.

Keywords – wearable devices , Internet Of Things, Global System for Tracking , Health Monitoring.

12

Predictive model in Zeolite Blended concrete strength computation using regression Analysis in Python

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Concrete has replaced brick and stone as the preferred material for most construction projects because of its durability and affordability. The final product's longevity depends heavily on the characteristics of the cement employed in its creation. The environmental and financial advantages of concrete can be increased by adding Pozzolanic mineral additions like fly ash and GGBFS. It is well known that the use of pozzolan can reduce the amount of calcium hydroxide in cement paste and increase the perviousness of concrete. Alumina silicates with equally sized pores and spaces make up crystalline zeolites. The volatile SiO2 and Al2O3 in zeolite are what give it its pozzolanic characteristics. Calcium hydroxide, which is created during the hydration of cement, interacts with CaOH2 to generate calcium silicate hydrate gel. In turn, this strengthens the microstructure of the concrete and makes it impermeable. In an effort to spread knowledge about potentially dangerous substances, notably those contained in car extinguishers, zeolite concrete implants have been employed. The goal of this study is to ascertain whether the durability of concrete is affected in any way by the addition of Natural Zeolite. Python's multiple regression analysis is used to create innovative formulas for strength predicting. Laboratory tests on concrete with zeolite as a blend attest to the accuracy of the predicted result.
Keywords: Regression Analysis, Python, Zeolite, Concrete etc.

13

Review on Optimization of Energy Efficiency in Wireless Communication

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Energy efficient communication is one of the important research topic for the development of 5G technology. Considering the extensive distribution of base stations, Resource allocation and energy efficiency optimization are essential elements to enhance system performance. Therefore, effectively controlling system energy consumption and resource allocation with minimum interference has become the key to whether 5G technology can achieve practical application effects. In order to enhance the energy efficiency performance of the MIMO wireless communication network system, this study combines the study of the interference management system with resource allocation.

Keywords- Energy Efficiency,mMIMO, QoS, Small cell, Spectral Efficiency

14

Survey Paper on Natural Calamity Detection using Deep Learning

Natural disasters alter the ecosystem permanently by upsetting not only the ecology that supports human life, but also by destroying vital buildings and other assets in human society. Natural occurrences such as earthquakes, cyclones, floods, and wildfires can cause disasters. Several deep-learning techniques have been applied by numerous researchers to lessen ecological damages brought on by natural disasters. However, because of the complicated and uneven visual structures, it is still difficult to identify natural disasters. To solve this issue, we suggest a multilayered deep convolutional neural network. The proposed model consists of convolutional neural network block which detects and categorizes natural disasters.
Keywords-Natural Calamity, CNN, Deep learning, Convolutional neural network.

15

EfficientNet-B6 model-based transfer learning for the classification of brain tumors

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One of the leading causes of death worldwide is brain tumor (BT). It is difficult to classify BTs using medical image processing. When abnormal brain growth occurs, it can have a negative impact on the functioning of the brain. Early diagnosis can help improve the prognosis and enable faster recovery for patients. A computer system that can help radiologists identify and categorise BTs using MRI scans can be beneficial. Unfortunately, manual classification techniques can lead to inaccurate and incomplete diagnoses. This is because the similarities and variations between normal tissues and tumors can affect the accuracy of the diagnosis. In recent studies, deep learning (DL) techniques have shown promising results when it comes to improving the accuracy of detecting and classifying BTs using MRI. The algorithm presented in this paper, uses Convolutional Neural Networks (CNN) in combination with transfer learning. This work utilized EfficientNet-B6, a transfer learning architecture, that achieved train accuracy, validation accuracy, test accuracy, precision, recall, and F1-score values of 100%, 99.34%, 99.61%,100%, 99% and 100% on the MRI-large dataset. The proposed method is significantly better than current research literature, demonstrating that it can be utilized to accurately categorize brain tumors.

Keywords- Brain tumor (BT), Deep learning techniques, EfficientNet-B6

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Design of Smart Mechanisms for the Utilization of Piezoelectric Power

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Power harvesting business is essentially rooted in the needs for different areas, and depends upon the power sources at one's disposal. Contemporary times require cleaner forms of energy generation. Harvesting requires monitoring and maintenance of the set up. Industry 4.0 has brought to us better ways of monitoring and management. Through the use of IOT devices, we would be in a position to monitor the integrity of the system which would make use of Piezoelectric materials and, in addition, cover areas like storage and structural health monitoring.

18

Exploring Adversarial Attacks and Countermeasures in Image Classification and Object Detection: A Survey

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Deep learning plays a crucial part in Artificial Intelligence applications like object detection, Cyber Security, natural language processing, robotics, Bioinformatics, medical imaging, image processing, automatic driving, and computer vision. Detection of objects, which has a crucial role in the field of video security surveillance is a challenging task in computer vision, and seeking to identify object instances from a vast collection of preset categories of organic images. Deep learning has made incredible strides in the area of generic object detection

due to its capability to directly learn representations of features from collections of data. However, recently the security vulnerability of deep learning systems to adversarial patches became a topic of research interest, wherein adversarial patches are nothing but patches with noise or subtle perturbations on images that are provided as input to train the model, leading to misclassification and prediction of incorrect outputs by the model. The goal of this study is to provide a thorough survey of the most recent developments in this field brought on by deep learning techniques. We finish the survey by pointing out intriguing areas for further research.

Keywords:- adversarial attacks, image classification, object detection, adversarial images, adversarial defense.

19

Unveiling the Evolving Landscape: A Survey of Recent Challenges and Security Issues in E-Learning

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E-Learning has witnessed rapid growth and adoption in recent years, revolutionizing the traditional educational landscape. However, this transformation is not without challenges and security concerns. E-Learning has become an integral part of modern education, offering flexibility and accessibility to learners worldwide. However, this shift to online learning brings forth a range of challenges and security issues that need to be addressed. This survey paper aims to provide a comprehensive analysis of the recent challenges and security issues in the domain of E-Learning. Through an extensive review of existing literature, we identify and explore key areas of concern, such as data privacy, authentication mechanisms, content protection, and cyber threats. Additionally, this survey examines the impact of these challenges on various stakeholders, including learners, educators, and institutions. Furthermore, this paper discusses potential solutions and best practices to mitigate the identified risks and enhance the security of E-Learning environments. This survey serves as a valuable resource for researchers, practitioners, and policymakers, enabling them to gain insights into the current landscape of E-Learning security and make informed decisions to safeguard educational systems in the digital age.

Keywords- E Learning, Security, Privacy, Digital Education.

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Computerized Detection and Classification of Tumor using Deep learning

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Breast cancer (BC) is the one of the most frequent cancer among women after skin cancer. Diagnosis and classification of early breast cancer considerably enhance prognosis and chances of receiving appropriate treatment. In this regards, the proposed work created a deep learning (DL) model to detect and classify tumors in the mammography images. A mammogram can detect breast cancer early, possibly before it spreads. A deep CNN architecture is pre-trained for a variety of generic descriptors. on this theory, extracts features from pictures using pre-trained CNN architectures in conjunction with VGGNet-16, VGGNet-19, Efficient Net BO used to classify malignant & benign cells. An analysis of the evaluation results is presents in this paper.

21

Application of Fusion Enhancement for Underwater Images

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This research paper suggests a strategy for improving underwater images by combining various image processing approaches. The suggested approach efficiently extracts important data from several underwater images using the Discrete Wavelet Transform (DWT) image fusion methodology. A low-quality underwater image is chosen, preprocessed with CLAHE contrast correction and gamma correction for illumination removal, and then dehazed using a CNN-based algorithm. The preprocessed photos are then combined using the DWT method to get the improved image. Compared to the CNN-based method, the suggested methodology is computationally cheap and utilizes fewer resources. PSNR, SSIM, and CCF are only of the analytical techniques used to assess the performance of the suggested methodology. The outcomes show that by keeping both high-frequency and low-frequency information while reducing noise and artifacts, the suggested strategy is excellent at enhancing underwater images. Keywords- DWT, DCT, wavelet, CNN, Laplacian pyramid, Gaussian pyramid, PSNR, SSIM, MSE, CFF.

22

Gyro Messenger using Arduino Uno

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The main purpose of using this rehabilitation technique is to feel part of the person and to live a life close to normal. Adaptable equipment is available for people who can cook and enjoy cooking but cannot because of a disability. Adaptive keyboards help them with everyday tasks like playing games, cooking and more. Some types of assistive devices can help a person with special needs dress and care for themselves. Some very simple but effective modifications can help them stay away from lights and alarms, some use too much. A Wireless Gyro Messenger is a gadget that provides an immediate response to a user's health status. With unprecedented

patient-centered care delivery and self-service portals are changing digital healthcare. In our upcoming webinar, we'll look at how to create a Wireless Gyro Messenger from the ground up and combine it with a variety of medical and non-medical wearable devices to improve healthcare. Wireless Gyro Messenger allows the patient's well-being 24 hours a day and provides access to the information to the clinician at any time, as well as notifying the doctor to check on the patient when it is most required. This paper examines the current state of our country's health-care gadgets for disabled patients, the gaps in India's health-care management system, and the potential solution to remedy them.

23

Intelligent IOT System for Smart Environmental Monitoring

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In last few decades, the department of science and engineering of every country have been understanding their responsibilities towards the environment and society. This responsibility includes protection public health and welfare. Environmental pollution is the major problems in front of any country and hence scientist and engineers have decided to control the environmental pollution problem. Environmental monitoring means the methods and actions that need to monitor the quality of the environment. All this monitoring activity are just to check current status of environment or to establish database in environmental parameters.[5] In this paper, we proposed IOT based monitoring system to check continues environmental condition. After monitoring it noted the environmental affection and corresponding prevention and control practices are implemented. The authorized offices always get information about the pollution range and action to be perform on it. For the healthy life of human being, it’s important to control the pollution and also to avoid the occurrence of natural disaster due to imbalance of environment. Keywords—IOT, pollution, environment, life, human being, etc.

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Intelligent IOT System for Smart Environmental Monitoring

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Today's women often experience anovulation, infertility, and preterm abortions. The condition polycystic ovarian syndrome (PCOD), which affects women of reproductive age, has been strongly associated with infertility. This hormonal disorder affects females who are in their reproductive years. Menstrual cycles in women that are late or nonexistent are the result of hormonal imbalance. It's important to be watchful of PCOD is characterized by intense weight issues, abnormal hair, eczema, baldness, hyperpigmentation, prenatal concerns, and hormonal imbalances, that for some women may culminate in failure. Once the illness has been discovered, there is no cure, although the right care may lessen the symptoms. PCOD is very challenging to diagnose because of the vast spectrum of symptoms and the occurrence of other related gynecological issues. PCOD sufferers are struggling because of the time and money spent on several clinical tests and ovary scans. We propose a way to address this issue based on an ideal and fundamental collection of traits that may aid in the early detection and prognosis of PCOD therapy. The underlying status of PCOD in women was predicted using machine learning classifiers such Random Forest, SVM, Logistic Regression, Gaussian Naive Bayes, and K Neighbors.

Keywords—Machine Learning, Polycystic Ovary Syndrome, Random Forest, Decision Tree, Support Vector Classifier, KNearest Neighbours, Logistic Regression, KNearest Neighbours.

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Exploring Big Data Analytics in Social Networking Sites

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Over the last few decades, humongous amount of data is being created by humanity owing to heavy usage of social networking sites. Explosive growth of social networking sites such as Facebook, twitter, YouTube WhatsApp generates massive amount of unstructured data. Major challenge faced in this research domain is to convert this huge community data into data which can be analyzed and secured and easily available. In this paper, various tools and frameworks like Hadoop, Spark, Map Reduce, HIVE and MongoDB have been studied in detail for their suitability to analyze large volume of variety of data. The tools have been studied in view of the three characteristics of data. First characteristic is based on nature of data i.e. whether data is historical or live streaming. Second characteristic considered is mode of analytical application i.e. batch or online. Third characteristics is data type whether data is structured, unstructured or semi-structured. From review of the papers, it is observed that in case of historical data, structured type and batch mode analytical application, HIVE is most appropriate on Hadoop framework. In case of live streaming data and online analytical application, MongoDB on Spark framework is appropriate. In case of semi structured and historical data, Mapreduce is appropriate in Hadoop framework. For analyzing data generated from social networking websites, Hadoop with HIVE is observed to be most suitable. This paper discusses commonly used tools and their comparison on these three characteristics.

Keywords— Big data, Social media analytics, Hadoop, HIVE, Spark

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Investigation of Optimization Machining Parameter for POM (POLYOXYMETHYLENE) while using TNMG Insert by Taguchi ANOVA

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Polymer plays an important role in manufacturing products. Polyoxymethylene is widely used polymer manufacturing industries. It is mostly used in the plastic molding, shipping industry, and transportation of pharmaceuticals. Due to the internal critical structure of Polyoxymethylene polymer, the machining of Polyoxymethylene is challenging task in the industries. Mostly turning operation is used in industry because, turning operation is the basic machining operation, and many polymer products are manufactured by the turning operation, This study is regarding the Polyoxymethylene turning. The objectives of the experiment are to find the optimum machining parameter for turning Polyoxymethylene polymer. TNMG Inserts were used while turning of Polyoxymethylene. For the optimization of turning parameter; Minitab software is used, for DOE and experimental regression models generated by the Taguchi L9 Orthogonal Array and ANOVA. The basic turning parameters such as Spindle speed, Feed and depth of are used as input parameters and surface roughness, tool

life and Material removal rate are measured as output parameters. Minimum surface roughness Ra value 4.560µm obtained at spindle speed 1050 PRM, Feed rate 0.20 mm/rev. and depth of cut 1mm. Tool life 23min. achieved at spindle speed 450 PRM, Feed rate 0.10 mm/rev. and depth of cut 2 mm and maximum material removal rate obtained spindle speed 1050 PRM, Feed rate 1.50 mm/rev. and depth of cut 1.5 mm. Keywords- TNMG Insert, Taguchi, ANOVA, Polyoxymethylene

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Vehicle tracking system with accidental alert

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In this project, we'll use a GPS receiver to track the location of the car and a GSM module to relay that information to the owner. This is an embedded system. Embedded refers to hardware that is managed by software. The hardware sends an SMS including the position of the vehicle if an accident happens and collects the contact information of the vehicle owner from a database. Cabs and taxis can be tracked using this technique. This system's primary goal is to instantly dispatch emergency services to vehicles involved in accidents in remote locations.

30

Smart Cradle Monitoring System using IoT

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There are now significantly more working mothers. Baby care has consequently turned into a daily struggle for many families. As a result, most parents leave their infants at baby care facilities or their grandparents' homes. However, in typical and unusual circumstances, parents cannot continuously check their children's health. As a result, an IoTbased baby monitoring system (IoT-BBMS) is suggested as an effective and affordable IoT-based system for real-time monitoring. We also proposed a new mathematical model for our system that plays a crucial role in providing better baby care when parents are unavailable. This project is the personification of a Smart Baby Cradle, brought about by integrating distinctive features, i.e., cradle swing. The data read by the sensors are gathered by the developed system's Node Micro-Controller Unit (NodeMCU) Controller Board and uploaded via Wi-Fi to the Blynk server. The proposed system prototype is fabricated and tested to prove its effectiveness in simplicity and to ensure safe operation to enable the babyparenting anywhere and anytime through the network. Finally, according to the prototype, the system is proven to work effectively in monitoring the baby's situation and surrounding conditions.

Keywords- Baby Monitoring, Smart Cradle, Personification, NodeMCU, Sensors

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Automated AI Based Road Traffic Accident Alert System

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Road accidents are a major cause of death and human injury worldwide, and there is a need for an automated AI-based accident alert system that can detect and report road accidents in real-time with the help of CCTV cameras on roads and sends an alert to the nearby authorities for help. In this paper, we propose an automated AI-based accident alert system using YOLO (You Only Look Once) object detection algorithm. The proposed system can detect and classify accidents in real-time and alert emergency services. The system uses YOLO to perform object detection on the video footage from the CCTV cameras and classify the objects as accidents or non-accidents., Open CV for image processing, and a web interface for emergency service alerts. The experimental results demonstrate the effectiveness of the proposed system in detecting and reporting accidents accurately in real-time and compares it with existing systems. The paper also investigates the feasibility of using low-cost embedded devices for the deployment of YOLO-based road accident alert systems. The results show that the proposed system can detect road accidents with high accuracy in real-time, and the deployment of low-cost embedded devices can make the system affordable for different traffic environments. The system will be designed to be scalable, reliable, and easy to deploy in different road traffic environments. The research will also discuss the potential benefits of the system, such as improved emergency response time and reduced fatalities, and the challenges and limitations of its implementation.

Keywords: Road accidents, YOLO, AI-based, automated, real-time, CCTV cameras, emergency response time.

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Unlocking the Potential of Block chain and AI for Pandemic Preparedness and Response

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Initiatives centered on information and communication technologies (ICT) encourage us to raise awareness of the need to combat the COVID-19 spread. Researchers are toiling hard to contribute towards virus detection, providing relief, and vaccines. Block chain and artificial intelligence (AI) are two key platforms propelling innovations by providing significant variations across all domains. Block chain technology, decentralized in nature, plays a vital role in handling medical data, and robust AI models contribute more towards predicting and treating diseases. We have studied the role of AI and block chain in contact tracing and infection treatment, the two most important aspects of a pandemic. Using the benefits of AI and block chain technology, the suggested AI-driven block chain system offers a complete response to the COVID-19 epidemic. The data is collected and managed on a decentralized platform, guaranteeing its safety and completeness while giving a birds-eye perspective of the epidemic.

Keywords: component, formatting, style, styling, insert

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Contextual Search Techniques: A Comparative Analysis and Future Directions

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Contextual search aims to improve the effectiveness of information retrieval by taking into account the context of the user and the search query. This paper provides a comprehensive survey of recent research on contextual search, covering various approaches that have been proposed to address this problem. Specifically, we review three major categories of techniques for contextual search: (1) using context information to enhance traditional content-based search, (2) presenting search results in context, and (3) utilizing relevance feedback to refine search queries and results. We summarize the strengths and weaknesses of each approach, and identify promising directions for future research. Our survey highlights the importance of considering user context in search systems and provides insights into how this can be achieved. We conclude that a combination of these techniques, tailored to specific contexts and user needs, is likely to provide the most effective approach to contextual search.

Keywords: Contextual search, Information Retrieval, Web Search, Relevance Feedback, Contextual Information, Search Engines.

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POWER OPTIMISATION SCHEME OF INDUCTION MOTOR USING FLC FOR ELECTRIC VEHICLES

Energy efficiency is essential in electric vehicles (EVs) and hybrid EVs when energy storage is constrained. The great stability, cheap cost, and minimization of losses of the induction motor increase its efficiency. Furthermore, it gets more current than is necessary for its task even at moderate loads. For EV (FLC) applications, this paper suggests a control strategy based on opaque logic control. The FLC controller enhances the initial power distribution while using less energy. Through simulation using the MATLAB/SIMULINK software package, the controller's performance is confirmed. In terms of time-domain reaction and quick rejection of system-related disruptions, simulation techniques perform better than typical proportional-integrated-derivative controllers. This considerably lowers the asynchronous motor's primary losses, increasing the drive system's efficiency. In order to confirm that the suggested control system is in excellent agreement with the simulation findings are employed.

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Multiple Disease Prediction System Using Machine Learning Algorithms

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In modern world, technology plays a crucial role in improvising human life. One such technology that is creating greater impact on human is Artificial Intelligence especially Machine learning. Health sector has been able to drastically change due to advancement in Machine Learning. Earlier due to lack of data, prediction of disease was a tedious process. Apart from that determining the drug dosage was challenging. Interdisciplinary

field of study such as Machine learning are coming to make use of data and statistics to check the effectiveness of medical practices. But earlier diseases analysis have been made for one disease such as Heart related, Diabetics related and for various other medical conditions. Here, we proposed a multiple disease predictor based upon different kind of symptoms and further developed a drug dosage finder system to calculate the required amount of drug dosage according to patient's conditions. This method of machine learning to identify relations between Disease and Treatment yield the benefits of streamlined operations, enhanced control & administration, better patient care, effective cost control and enhanced profitability.

Keywords: - Machine Learning, Decision Tree, Random forest, Naïve Bayes, Accuracy, Classification, Prediction, Drug dosage finder

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Design and Implementation of Hand Gesture Assistant Command Control Video Player Interface for Physically Challenged People

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Hand gesture control provides an advanced technology which improves the life of physically disabled individuals by permitting them to interact with the environment. The proposed system controls the actions of the video by following given commands using finger movements (like pause / play the video, control volume i.e., high, low, forward and backward the video) that can be operated from a distance of around 2 meters. It is a directly trained system that works on the gestures that are shown by fingers and understood by the nodes on the fingers implemented by the code so no dataset is required which decreases the latency. The objective of this work is to empower physically challenged individuals with a technology that enables them to independently navigate and control video content. The system also consists of webcam to control the actions from distance. For the effective implementation of the system, computer vision technique is used to accurately recognize different combination of fingers as hand gesture with the accuracy of nearly 95 percent with the latency of 300 milliseconds. The proposed framework in the paper aim to help the physically impaired people for controlling the video player.

Keywords—OpenCV, MediaPipe, Pyautogui, Physical Disability, Hand Gesture, video player

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Optimization and NVH analysis of an instrument cluster

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Visteon corporation is global Tier 1 supplier of automotive sub systems such as Electronics products, interior products, HVAC, engine induction and exterior lighting products. The present work deals with the topology, topography optimization and NVH analysis of an instrument cluster and electronic subsystem of vehicle. Modal analysis is carried out to find out natural frequency of base model and frequency response analysis done for given excitation. Results reveals that more stress level observed in the material than the allowable fatigue strength of material. It is observed from the analysis that the natural frequency of cluster should increase more

at initially so that the stress level of component gets reduced below allowable limit to withstand the road input excitation.

Keywords- Instrument cluster, Rendering, Moulding, Analysis Tools

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Automated Industry Management System

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Automated Industry Management" can be a framework that can be utilized by diverse businesses to overtake their setup into a sharp generation line. The manufacturing technique is controlled utilizing current conditions/requirements in a versatile and decentralized way through the keen interconnection of the autonomous generation components such as sensors, PLC, etc. The creation of parts can be revolutionized and optimized. "Automated Industry Management" to allow a nonstop perception of the method utilizing IIOT. Traceability is one of the basic highlights and assets within the occasion that actualized can be an issue solver for Data Organization in large-scale businesses. With offer assistance of "Automated Industry Management," we have endeavored to give the adroit fabricating plant capacity to make choices based on required components. The same will be shown through the model that we'll be advancing to make by scrutinizing term papers. This system can offer help to decrease the lead time in the midst of the creation of that particular component. This system is arranged to work with unimportant human intercession which can take us a step closer to the upcoming Industry 4.0. The cover system will to offer help to businesses to be competitive in the fast-growing world, Extended era abdicates, dependable and progressed parcel era quality. In arrange to meet the ever-changing client demands in a profoundly competitive environment, the makers ought to be dexterous, capable, and responsive, additionally be cost-effective by persistently lessening operational costs. Regularly fulfilled by the tall level of digitization and mechanization interior and exterior of the organization's supply chain.

Keywords - Industry 4.0, Automated Industry Management System, Radio frequency identification (RFID), Automatic Sorting Mechanism, IIOT (Industrial Internet Of Things)

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Skin Disease Classification Using CNN

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Skin conditions are a serious health issue that impact millions of individuals worldwide. Skin illnesses must be identified and treated as soon as possible in order to reduce complications and enhance patient outcomes. However, diagnosis of skin diseases can be challenging, even for experienced dermatologists. Convolutional neural networks is a type of deep learning artificial neural network algorithm that has been used in order to detect images and graphics and further used for classification problems, including skin disease classification. CNNs are able to learn features from images that are relevant to the task at hand, and they can be trained on

large datasets of images to improve their performance. In our research paper, we introduced a CNN-based approach for skin disease classification. A substantial collection of thermoscopic pictures is used to train the system., and it is able to classify skin diseases with high accuracy. It can be used by dermatologists, primary care physicians, and other healthcare professionals to help them make more accurate diagnoses. The system can also be used by patients to self-diagnose their skin conditions. The proposed system is still under development, but it has the potential to be a remarkable gadget for the early diagnosis and treatment of skin diseases.

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Low-Cost Ventilator with IOT Live Data Monitoring

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Skin conditions are a serious health issue that impact millions of individuals worldwide. Skin illnesses must be identified and treated as soon as possible in order to reduce complications and enhance patient outcomes. However, diagnosis of skin diseases can be challenging, even for experienced dermatologists. Convolutional neural networks is a type of deep learning artificial neural network algorithm that has been used in order to detect images and graphics and further used for classification problems, including skin disease classification. CNNs are able to learn features from images that are relevant to the task at hand, and they can be trained on large datasets of images to improve their performance. In our research paper, we introduced a CNN-based approach for skin disease classification. A substantial collection of thermoscopic pictures is used to train the system., and it is able to classify skin diseases with high accuracy. It can be used by dermatologists, primary care physicians, and other healthcare professionals to help them make more accurate diagnoses. The system can also be used by patients to self-diagnose their skin conditions. The proposed system is still under development, but it has the potential to be a remarkable gadget for the early diagnosis and treatment of skin diseases.

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Digital Transformation in Education: A Bibliometric Analysis

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Over the past two decades or more, new educational technologies have brought about a technical transformation in India's educational institutions in India. The goal of this article is to look into the effects that new technologies have on students attending educational institutions in India, namely those attending schools, universities and colleges. The study's overarching goals are to determine how heavily students are utilising new educational technologies, determine whether or not new educational technologies use is influenced by the financial nature of the institution, and analyse the outcomes of new educational technologies use. This study is based on the education system and new technology integration in primary and higher education so that it will facilitate all the students in their understanding, accessibility, and learning of new resources and technological terms. The bibliometric study has been conducted with data from available literature in concern of India.

Keywords: Technology, India, education, digitalization.

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A Survey on ZigBee Technology

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Zigbee is a wireless local area network communication standard. Because of the data transfer, it offers great stability and transfer rate with low power consumption. Since the signal strength is low in the nodes that are farther away from the coordinator in a single PAN, delays in data transmission and growing delay time cause the network's performance to degrade and its resources to be utilized inefficiently. This prevents the network from maintaining a constant connection. Long-range data transmission in ZigBee nodes is made possible by adjusting to their unique signal strengths, and this study offers the grouping strategy and does a simulation analysis of the suggested algorithm to determine its efficacy. In addition, the study proposes a method of clustering that facilitates long-distance data transit depending on the signal strengths of the nodes involved. Zigbee is a proposed standard for linking battery-operated, low-rate, wireless devices. This proposal was motivated by the IEEE 802.15.4 standard for Low Rate-Wireless Personal Area Networks (LR-WPANs). It is anticipated that Zigbee networks would enable a wide variety of novel applications, including those related to smart homes, healthcare in the home, medical monitoring, and environmental sensors. A trustworthy routing mechanism is crucial for Zigbee mesh networks. This project's primary goal is to increase routing performance in Zigbee Mesh networks by developing a Zigbee protocol module in NS-Methods have been presented for both the optimal routing of the Zigbee mesh network and the optimal routing of the various data services provided by the Zigbee application layer. ZigBee is a protocol that builds on top of the IEEE 802.15.4 MAC and Physical Layer to provide network, security, and application features. It utilizes a toolbox of technologies to facilitate networks that are elastic enough to handle a broad variety of data traffic patterns while being scalable, self-organizing, and self-healing. ZigBee is a standard for wireless mesh networking that is both cheap and efficient to use. This technology's low price tag makes it a strong contender for usage in wireless control and monitoring applications. Low energy consumption means the technology can operate for longer on smaller, cheaper batteries, and the prospect of high reliability and increased range owing to mesh networking is encouraging. ZigBee was created because there was a need for a reliable wireless networking protocol that could support a wide variety of low-power gadgets. The inventors of the network hope that by optimizing the routing algorithm, they may reduce power usage and ping times. A packet delivered from a node in a typical tree routing arrangement must travel from parent to child node in the tree topology before it reaches its destination. This holds true regardless of the physical distance between the two locations. A ZigBee-based Enhanced Tree Routing Algorithm was developed for this purpose. This technique chooses which router to transmit the packet to based on the lowest possible number of hops by comparing the routing costs for each router in the neighbor table. In comparison to the traditional tree routing method, the improved version may be more stable & productive.

Keywords— Sensor Networks, Zigbee, Mobile coordinator, grouping, Network Key, protocols, meshes, suite, bandwidth.

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Attribute-based Hybrid Encryption for Efficient Channel Security with Privacy Preservation: The CSAEPP Approach

Madhavi Tota, Dr. Swapnili Karmore

Users may connect with a large number of people at once by exchanging data packets across broadcast communication channels. As the number of interacting nodes increases, it seems that the possibility of spoofing, espionage, and other types of network attacks increases as well. Due to this, far less encryption is needed for node-to-node unicast connections than it is for this data. Several models are capable of playing this function, but they are all limited in their capacity to scale since they compromise the connection's quality of service (QoS) in order to enhance the performance of the encryption. In this book, an unique attribute-based hybrid encryption and privacy protection method is introduced to address this drawback (abbreviated as CSAEEP). The recommended method defends against intermediate assaults by using attribute-based encryption and packet lifetime awareness. This is made possible by combining the initialization vector (IV)-based encryption with the Fernet model. Using data gathered at the node level from all broadcasting nodes, the CSAEEP model creates a broadcast key. There is less chance that sensitive data along the communication chain may be compromised since the broadcast key is produced again after decryption using node-level attributes. In order to further improve the durability of the encryption, IV encryption employs random values for the same key vector. This approach also makes use of network-wide automatic key verification. To better protect encrypted data and maintain differential privacy, an exponential approach is used. This prevents broadcasting parties from unintentionally learning a node's individual identification information. A variety of attack patterns were tried against the proposed model, and its defence mechanisms and quality of service metrics were evaluated. The suggested model was shown to have 23% less latency, 19% stronger attack resistance, and 20% less complexity than methods considered to be state-of-the-art, making it simpler to apply in real-time deployment scenarios.

Keywords: - Privacy Preserving, security, Hybrid-encryption, fernet, IV, Differential Privacy, QoS, Attack

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Literature Review for Mechanical Drives Trainer Kit

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Mechanical drives use machine elements to transmit power in machines. The mechanical drives trainer kit is designed to introduce the mechanical drive elements and understand their working. The mechanical drive trainer kit comprises of a drive train that uses single phase ac motor, open belt drive, spur gear pair, worm gear pair, chain drive, timer belt drive, and bevel gear drive. The elements like spur pinion - rack, universal joint, step cone pulley, love-joy coupling, muff coupling, rope and pulley etc. The main purpose of manufacturing of mechanical drive trainer kit is, we can easily explain the mechanism and how that can be worked, which stresses act over that mechanism during running condition, what type of failure will occur during running condition, how to operate & check the mechanism and how to fix the problem in mechanism etc. so we directly get live demonstration when we use the mechanical drive trainer kit.

Keywords - Mechanical drives, trainer kit, design, manufacturing

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Mental Illness Prediction using Machine Learning Algorithms

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Depression is one of the most concerned issues in the society and it's not limited to certain age of a person. Depression management is an approach for analysing and working on these concerns and lead to quality of life. The idea behind this work is to analyse depression and anxiety based on some psychological tests like PHQ9, GAD7 and DASS 21. Machine learning is an emerging field in computer science and has ability to predict outcome based on certain situations or inputs. Machine learning algorithms will be used to predict depression and anxiety by using standard psychological scales. Training and testing datasets will be used to train and test the developed machine learning model. This paper discusses the different methods proposed by the researchers.

Keywords: Anxiety, Classification, DASS-21, Depression, Stress, Supervised Learning.

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The art of deep learning and natural language processing for emotional sentiment analysis on the academic scholars' peer review process

Deep learning and natural language processing has emerged as modern machine with state-of-the-art modern learning and applicable techniques that help academicians, students, and teachers to identify, evaluate and validate documents and text features.

Keywords: Deep learning, Natural language processing, emotional sentiment, peer review, Confusion Matrix Model

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Design Analysis and Performance Evaluation of Cabot for Liquid Material Handling

Material handling of liquids using robotic action is a challenge whereas in the conventional pick place robots are designed for solid objects. Secondly, the concerns of safety are also a challenge during robot working action are also very significant. The project aims to solve the above problem using two basic systems, the liquid handling system developed using a liquid dispensing valve and secondly, a safety system that uses two sensors that take care of two zones namely the danger zone and the hazard zone where in the danger zone sensor will slow the robot speed by 50 percent and the hazard zone sensor stops the robot entirely. Thus the project aims to development of a collaborative robot for liquid material handling. The objective of the project is to Design and develop a cobot arm for liquid material transfer at any prescribed angles to the container system, thereby creating –a flexible route layout for material transfer. The methodology adopted will be to develop a mathematical model of the cobot system with modular design for the said function ability . 3-D modeling of set-up components using Unigraphix CAE of critical components and meshing using Ansys. Mechanical design validation using ANSYS …critical components of the system will be designed and validation of strength calculations of critical components. The programming of the robot will be done using the Aurdino circuit and

the phasing of the drop angle, hopper lid opening and speed of the transfer can be set to the required value using the circuit.

Keywords : Liquid material transfer , Danger zone, Hazard Zone , Cobot , Aurdino

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Experimental Investigation of the Machining Process Parameters for Hastelloy C-276

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Hastelloy C-276 is used as a critical component in industries of aerospace, chemical, gas turbine, and marine owing to its excellent properties. The primary objective of this review paper is to investigate how machining characteristics such as arithmetic mean surface roughness, tool flank face wear, tool, and work piece interface temperature, and vibration are affected by various input process factors like cutting speed, feed rate, depth of cut, and cooling methods like nano fluids and minimum quantity lubrication. Since, the machining of this material is quite difficult and hence suitable cooling systems are required to achieve sustainable manufacturing goals. In this setup, we are using CBN inserts for machining. The present investigation has been focused on the machining performance and sustainability assessment of turning Hastelloy C-276 in dry, flood and minimum quantity lubrication environments. cutting forces, surface roughness, cutting temperature, energy consumption and carbon emission have been recorded at various levels of input variables.

Keywords- Hastelloy c-276, Nano fluids (NF), Minimum quantity lubrication (MQL), Machining parameters, CBN Insert.

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A Review: Design, Analysis & Optimization of E-Bicycle

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The main purpose of this paper is to present the idea of designing E- with minimum cost as well as shouldhave great efficiency During the revolution forthe eco-friendlytechnologies e-bike were the most depended modes of e-biketransportation, along with this the consideration of the increase in fuel price and the environmental factors. We must admit that is far better to use an e-bike over a motor vehicle for short distance travellingbike running cost is verylow compare to other available source. Nowadays there are several types of automobiles but the cost of fuel goes on increasing. Over all these disadvantages the e-bike is best solution. In market there is many types of attractive looks e- bike available in market. Its cost of electric supply for the battery charging also very low. As well as the maintenance cost is also low.

Keywords- Controller, Battery, BLDC Motor, Design

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Investigation of Optimization Machining Parameter for ABSAcrylonitrile butadiene styrene while using TNMG Insert by Taguchi and ANOVA

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Polymer plays an important role in manufacturing products. ABS is widely used polymer manufacturing industries. It is mostly used in the plastic molding, shipping industry, and transportation of pharmaceuticals. Due to the internal critical structure of ABS polymer, the machining of ABS is challenging task in the industries. Mostly turning operation is used in industry because, turning operation is the basic machining operation, and many polymer products are manufactured by the turning operation, This study is regarding the ABS turning. The objectives of the experiment are to find the optimum machining parameter for turning ABS polymer. TNMG Inserts were used while turning of ABS. For the optimization of turning parameter; Minitab software is used, for DOE and experimental regression models generated by the Taguchi L9 Orthogonal Array and ANOVA. The basic turning parameters such as Spindle speed, Feed and depth of are used as input parameters and surface roughness, tool life and Material removal rate are measured as output parameters. Minimum surface roughness Ra value 4.560µm obtained at spindle speed 1050 PRM, Feed rate 0.20 mm/rev. and depth of cut 1mm. Tool life 23min. achieved at spindle speed 450 PRM, Feed rate 0.10 mm/rev. and depth of cut 2 mm and maximum material removal rate obtained spindle speed 1050 PRM, Feed rate 1.50 mm/rev. and depth of cut 1.5 mm.

Keywords- TNMG Insert, Taguchi, ANOVA

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Data Privacy Issue In Beyond 5G SIoT Network

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Internet of Things (IoT) and wireless communication technologies are evolving rapidly and changing the way we are living and working. IoT demands uninterrupted, reliable, and consistent connectivity, which is being catered by the 5G network concepts for delivering reliability, scalability, and on-demand solutions. Bringing the network closer to every device is another vision of 6G. IoT applications and personalized service, cooperative network sharing such as Device to Device (D2D) communication, and data processing with Artificial Intelligence for Quality of Experience (QoE) need users' personal information to be shared over the public network. However, most users do not understand their data privacy and security. Thus, user data privacy and security will become critical for IoT applications dealing with sensitive information, such as healthcare and military applications. This article aims to manage and sustain data privacy through a recent framework like the Social Internet of Things (SIoT) by building a social network among devices, and trust management, with block chain.

Keywords- Social Networking, Trust management, SIoT, 5G, IoT, block chain

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Big Data Enabled Intrusion Detection with Honeypot Intelligence System on Apache Flink (BDE-IDHIS)

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The importance of data security and data analysis strategies for Big Data has recently altered as a result of an enormous amount of data and its continual expansion. An intrusion detection system (IDS) is a device that keeps track of and examines data in order to find intrusions in networks and other systems. The data analysis process is exceedingly complex and requires a huge volume, variety, and speed of data to detect assaults using traditional methods. In order to achieve the goal of effective system protection, intrusion redirection technology has been used to identify potentially harmful access for traceless forwarding and forward it to a honeypot (HP) scheme. From a unique standpoint, HP method is a form of active defensive system that uses enticement to lure invaders so that more data may be collected. In the Apache Flink environment, this article describes a novel intrusion detection method called Big Data Enabled Intrusion Detection with Honeypot Intelligence System (BDE-IDHIS). The BDE-IDHIS technique seeks to first detect the presence of intrusions thereafter diverting traffic to the HP system for effective security of the actual system. Moreover, the MQTT Honeypot with Decision Engine and Redirection Engine is used in the BDE-IDHIS method. In addition, Apache Flink is utilized in this study to manage huge data settings. A number of experiments are used to test the experimental result analysis of the BDE-IDHIS technique, and the results are then examined from a variety of angles. The experimental outcomes stated the better performance of the BDE-IDHIS technique over other existing techniques

Keywords- Big data; Honeypots; Threat detection; Security; Apache Flink.

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SMART WATER DISPENSER FOR HOT & COLD WATER

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In this paper, an experimental work was develop to produce the hot and normal water. One of the current essential domestic needs is access to hot and normal drinking water. The water dispenser market worldwide water dispenser consumes a large amount of the annual electricity of the household sector. The rapid growth of the Internet of Things (IoT) changes human’s life into a smart world. Physical objects connected with smart sensors provide data to make people's life easier. We present a case study of the smart water dispenser is with the aid of weight sensor, temperature sensor, and raspberry is built to assists the users and the water bottle suppliers by tracking the amount of water used in day to day activity. The smart water dispenser measures the weight of the available water in the dispenser and pops an alert when the water in the dispenser is about to finish. It measures the temperature and pushes notifications to the user about water consumption. Here we put forward a fully automated based water dispenser system using Arduino and Relay. The system is capable of

fully automated water dispensing using solenoid tap and sensors. The system also senses if glass is placed at the counter to avoid water spoilage if there is no glass placed at the counter panel.

Keywords- smart water dispenser, HCSR04 ultra sonic sensor, solenoid valve, Arduino board,

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AI-Enhanced Library Management System

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As we know that technology is developing gradually in the overall world. So to keep developing this project has been introduced. In the past, we saw that it was very difficult to manage a huge number of books but sooner the problem came with managing the user records too. But when software came into existence of the stance the whole managing part was taken care of by the inbuilt software. A library is a collection of materials, books, and multiple things that are accessible for use and not just for display purposes. From this point of view, the computerized system for handling the activities of library management provides a comprehensive way to l physical labor, reduce the complexity of the system, and soon. As technology developed human effort also started depleting but only up to a limited extent, till date in most libraries still cards are being kept to keep records and this requires a lot of human effort. So, Library management with Machine Learning has been brought to reduce human effort.

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AI VIRTUAL MOUSE

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As we know that technology is developing gradually in the overall world. So, to keep developing this project has been introduced. In the past, we saw that it was very difficultto control the screen of the computer without a mouse i.e., to move the cursor from one point to another we need to type or enter a code from a book. But when the mouse came into existence then it became easier to work with computers. As the technology developed from a wired mouse, now we use a mouse that runs with the help of Bluetooth. So, to make some changes an AI Virtual mouse is coming into existence, which ignores a hardware device.

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Multiple Disease Prediction using Machine Learning

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The “Disease Prediction” system based on predictive modeling predicts the disease of the user based on the symptoms that the user provides as input to the system. The system analyses the symptoms provided by the user as input and gives the prediction of the disease as an output. Disease Prediction is done by implementing the SVM Model (Classifier). In terms of data collecting and processing, healthcare is one of the most worrisome industries. With the advent of the digital era and technological advancements, a vast quantity of multidimensional data on patients is created, including clinical factors, hospital resources, illness diagnostic information, patients’ records, and medical equipment. The enormous, dense, and complex data must be processed and evaluated to extract knowledge for effective decision-making. Medical data mining offers a lot of potential for uncovering hidden patterns in medical datasets.

Keywords- disease, system, medical, prediction, symptoms, diagnostic, SVM model, classifier, predictive, modeling, healthcare

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IOT BASED SMART WATER QUALITY MONITORING SYSTEM

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Water pollution is one of the biggest fears for the green globalization. In order to ensure the safe supply of the drinking water the quality needs to be monitor in real time. In this paper we present a design and development of a low cost system for real time monitoring of the water quality in IOT(internet of things).The system consist of several sensors is used to measuring physical and chemical parameters of the water. The parameters such as PH, turbidity, Ultrasonic sensor of the water can be measured. The measured values from the sensors can be processed by the core controller. The Arduino can be used as a core controller. Finally, the sensor data can be viewed on internet using WI-FI/GSM system. The aim of the implementation this project was to demonstrate that the automatic plant can be used to Quality of drinking water, and save your time.

Keywords: Automatic Watering System, Arduino board, TDS sensors, PH Sensors, Solenoid Valve, WIFI /GSM Module.

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Advancements in Data Ingestion and Processing using Hadoop

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Hadoop, a freely available framework for managing extensive datasets, has revolutionized the approach to handling largescale data. As the volume, diversity, and velocity of data continue to experience exponential growth, conventional techniques for data management have revealed their limitations. This research explores innovative approaches in data intake and processing utilizing Hadoop to address the obstacles presented by big data. The Apache Hadoop environment provides a robust base for the concurrent and dispersed handling of immense datasets. At the core of this structure lies the Hadoop Distributed File System (HDFS), which arranges data into partitions scattered across multiple data nodes. However, efficiently ingesting data from diverse origins, such as social media, relational databases, web server logs, and streaming data, presents unique difficulties that demand specialized tools. To address these challenges, we propose leveraging advanced components within the Hadoop ecosystem. Apache Sqoop emerges as a potent tool for seamless data transfer between Hadoop and relational databases, facilitating the smooth ingestion of structured data. By utilizing Sqoop, data can be efficiently offloaded from the Extract, Transform, Load (ETL) process into Hadoop, resulting in reduced costs and processing time. Moreover, Apache Flume proves to be indispensable in managing streaming data. Acting as an intermediary between data producers and centralized storage, Flume ensures the uninterrupted flow of data from various sources in real-time. With its dependable and fault-tolerant nature, Flume effectively captures and stores streaming data directly into Hadoop, enabling continuous data processing upon arrival.

Keywords- data ingestion, data processing, Big Data, Hadoop distributed file system

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Sign Language Recognition

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Sign Language is mainly used by deaf (hard hearing) and dumb people to exchange information between their own community and with other people. It is a language where people use their hand gestures to communicate as they can’t speak or hear. Sign Language Recognition (SLR) deals with recognizing the hand gestures acquisition and continues till text or speech is generated for corresponding hand gestures. Here hand gestures for sign language can be classified as static and dynamic. However, static hand gesture recognition is simpler than dynamic hand gesture recognition, but both recognition is important to the human community. We can use Deep Learning Computer Vision to recognize the hand gestures by building Deep Neural Network architectures (Convolution Neural Network Architectures) where the model will learn to recognize the hand gestures images over an epoch. Once the model successfully recognizes the gesture the corresponding English text is generated and then text can be converted to speech. This model will be more efficient and hence communicate for the deaf (hard hearing) and dump people will be easier. In this paper, we will discuss how Sign Language Recognition is done using Deep Learning

Keywords: Hand gesture, Sign language, Communication

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A WEBSITE FOR AGRICULTURE PRODUCTS AND E-COMMERCE

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It is evident that e-commerce is having a significant impact on the agribusiness industry. The way people purchase agricultural products is a cause for concern. Consumers often have to travel long distances to buy these items, and there is no guarantee of quality. Moreover, middlemen seek to obtain commissions, leaving farmers unaware of the exact conditions and prices at which their commodities are sold. This lack of transparency creates frustration. Additionally, farmers lack access to the necessary infrastructure to learn about product prices in various markets, hindering their ability to earn substantial profits. To address these challenges, our goal is to assist farmers, buyers, and sellers in the agricultural sector through the use of computer technology. Our website aims to educate farmers about modern farming techniques, provide information on current market prices for different goods, and calculate the overall revenue and profit from the sale of their products. It serves as a platform for farmers to connect with end users, allowing them to secure higher profits. With basic website navigation skills, e-farming enables farmers to market their goods nationwide. Through this proposal, consumers can conveniently purchase desired items by exploring a wide range of products and making online payments. This streamlined process eliminates the need for physical travel and provides instant access to the desired goods.

Key Words: E- commerce, Agribusiness, Online shopping, E-Farming, Online Payment

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A SIMPLE TRANSLATION SYSTEM USING A MACHINE LEARNING ALGORITHM

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Despite the fact that machine translation has advanced greatly in recent years, it continues to struggle with issues including vague rules, missing data, and the increase in wrong translation order. Construct intricate mappings between functions, inputs, and outputs, and successfully troubleshoot translation system issues. The fundamentals and illustrative models of deep learning and machine learning are introduced. In this proposal examines the principles, frameworks, and models of neural model-based machine translation systems. The design of preprocessing and coding modules in accordance with translation requirements and present a machine

learning-based translation system. To produce a user-friendly programme, capabilities like text translation, text synthesis, textfrom-image extraction, text-to-speech conversion, and many more must all be incorporated. The main objective is to convert the text that has been extracted from a picture that the user has provided into speech. Giving visually impaired persons a helpful mp3 format is one of our objectives.

Keywords: Machine Learning Algorithm, Text to Speech Conversion, Deep Learning, Translation System

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Advancements in Speech Recognition Technology: A Cutting-Edge Tool for Improved Speech Analysis and Interaction

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The concept of controlling devices through voice commands has always fascinated humans, and after years of research, speech recognition systems have become widely adopted across various industries. Achieving high accuracy in voice recognition is a key focus of ongoing research, addressing factors such as background noise, linguistic and speaker diversity, vocabulary size, and domain specificity. This white paper explores the main challenges associated with developing speech recognition systems, including language classes and representations, language modeling techniques, feature extraction methods, databases, and performance evaluation. Additionally, it delineates the front-end and backend components of the system for better comprehension and presentation. With an increasing number of people accessing the internet, a significant percentage, approximately 50% globally, face difficulties due to various impairments. These challenges go beyond data limitations and extend to actual usability issues. This paper discusses the existing problems with the website's modules, particularly in content segmentation and font accessibility for users with vision impairments. As an alternative, a continuous scrolling page format is proposed to improve information presentation and user experience.

Keywords: VAD, Feature Extraction, Hidden Markov Model, Neural Networks

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Role of Battery Management System on the Performance of Electric Vehicles

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It is possible to monitor and regulate the charging and draining of rechargeable batteries in electric cars using battery management systems (BMS). When it comes to the battery, a management system ensures it is safe and dependable while also increasing its lifespan. In order to keep the battery, voltage, current and ambient temperature in a stable condition, a variety of monitoring approaches are used. A variety of analogue and digital sensors with microcontrollers are used to monitor the environment. The maximum battery capacity, battery health, and battery charge are all discussed in this study. For future issues and answers, a reassessment of all these techniques is necessary.

Keywords: BMS, Battery health parameter, green energy, management, sustainability

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Implementation of the Smart Traffic Management System through Cloud Computing

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The computation of traffic systems is more reliable nowadays. Traffic has become a vast and foremost criterion. As such people nowadays are having a car or a bike for their transportation. Transportation has become the predominant one and the buying of vehicles has made their lifestyle good and stable. It also shows their prejudice and their act of living. Thus every normal human being owns a car or a bike nowadays. This made an increase in pollution and even the traffic has increased much. Accidents are also a part of the traffic. The people cannot wait in the traffic for so long that they tend to move forward which leads to traffic accidents. This should be taken care of and the proposed system is making some devotional moves to take care of this hazardous situation. The immense traffic control system should be liable and payable by the government in the smart cities project. The smart city project will be having a great impact on the traffic management system. The great effect of the traffic management system is that it needs to be carried forward for the user and their convenience. The massive change in these systems made a great leap in the eco-system and the production of these proposed models made the user enhance their features in their way. The control units in this proposed system helped the user to define their own rules for transportation and the wise control makes them useful in ranges. The cloud computing platform helps us to maintain data security and competence in the network arena. The main aim of the proposed system helps to maintain the data security of the transportation and the vehicles that pass by the area. The most important part of security lies in the combination of the computation technology used. The enhancement in the place and movement of the vehicle monitoring is enabled through the cloud computing platform. This helps the user to retrieve the data of their stolen vehicle which will be retrieved easily by the stored data sets of their vehicles. The easy identification through neural networks helps the passive communication between the user and the admin. The process of passive communication is computed through the internet of things and its control mechanism.
Keywords: Cloud computing, Internet of things, Cloud mechanism, Artificial neural network, Artificial intelligence, Smart transportation.

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Shape Memory Alloys for Aerospace Application

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Shape memory alloys (SMAs) are characterized with the aid of using their ability to go back to their unique form while heated above an essential temperature (form reminiscence effect) or to resist huge deformations that may be recovered after discharge (pseudoelasticity). As soon as shape memory alloys were identified and their special mechanical and functional properties were explored, they began to be proposed for use in spacecraft and other applications. A variety of reasons contributed to the development of equipment and structures that were launched into space taking more than 30 years longer than expected. Russian Progress-40 was the first spacecraft to use the drives to unfold a transformable construction in 1989. Despite the conservative attitudes of space industry leaders, engineers, and designers, it is possible to change them. As the primary focus of this paper, it explores the use of shape memory alloys for morphing aircraft, including the ability to change twist and chamber, as well as the ability to reduce power consumption and actuation bandwidth. Because of the shape memory effect, new combinations of structural and massive capacities are frequently combined with these SMAs. In addition to

modeling the fluid-structure interaction and the nonlinear behavior of SMAs, iterative and multidisciplinary approaches are necessary.

Keywords— SMA, Actuators, Shape memory effect, Behavior, Materials, Aerospace applications.

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Renewable Energy Powered Weather Monitoring System using IoT

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The many elements of daily life, especially in agribusiness, accurate and ongoing weather monitoring is essential. National weather data, on the other hand, frequently relies on data from the nearest climate station during a specified time period and lacks exact information for specific places. The goal of this research project is to create a weather station that uses renewable energy to track meteorological variables. The system includes sensors that can measure barometric pressure, temperature, humidity, raindrops, carbon monoxide, smoke levels, and humidity. Data from these sensors is collected by the Arduino microcontroller and sent to mobile applications using a Bluetooth serial terminal profile. Through the smartphone application, weather parameters can be monitored in real-time. The system gives warning signs and alerts in the case of critical weather conditions to support safety measures and guard against severe weather. This weather monitoring system delivers sustainability and continuous operation for precise weather data collection by utilizing renewable energy sources.

Keywords— Renewable Energy, IoT, Weather Monitoring, Temperature, Pressure, Humidity, Air Quality

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Pyro Alert: Fire Detection using Computer Vision and Alert System

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The proposed fire detection system combines the power of OpenCV, HSV color space, background subtraction, color segmentation, masking, contour analysis, and alerting mechanisms. By integrating these techniques, the system enhances fire safety measures and enables timely responses in critical situations. Realtime video footage is processed, and fire regions are accurately identified by leveraging the distinctive color characteristics of fire. The system is capable of detecting fires in various environments and can be deployed in surveillance systems, smart homes, or industrial settings. The ability to send alerts ensures that appropriate actions can be taken swiftly to mitigate fire-related risks. Overall, this project presents an effective solution for fire detection using computer vision techniques, offering improved fire recognition and enhancing the safety and security of the monitored environments.

Keywords- Fire Detection, CV2 (OpenCV), Image Processing, Color Segmentation, Masking, Background Subtraction, Contour Analysis

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Deep dive into Sentiment Prediction on COVID-19 Related Tweets

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In recent years, Sentiment Analysis has become increasingly important with a rapid growth of online content from different internet based social media platforms such as Facebook, tweeter and blocks. Sentiment Analysis is associated with the process of analyzing user generated online content which actually holds people's opinions and thoughts regarding various topics, products, subjects, and services. Recent COVID-19 pandemic is having a devastating impact on public health, societies, and economies around the entire globe. During the global pandemic period, social media platforms have been flooded with news of the COVID-19 and this platform has become an effective ally but also a potential threat. It is obvious that during the lockdown and isolation phase, social media plays a crucial role in helping people to stay connected even when they have a large distance. In spite of all, these media platforms have also been misused for spreading fake news, hatred and creating racism which have a significant impact on people's mental health. In this research work, a fusion-based Machine Learning framework has been attempted by merging the Traditional Machine Learning method with Deep Learning techniques to tackle the challenge of sentiment prediction for a massive amount of unstructured twitter datasets. Thereafter, a traditional SVM classifier is trained with these extended features set to determine the optimal hyper-plane for separating two classes of review datasets. Finally, compare with the result of some other trained (with feature vector form of the twitter data set) classifiers such as SMO, MNB, Random Forest, and Logistic Regression. The performance of the algorithm is measured by evaluation methods such as precision, recall, F-measure. Experimental results with comparative studies based on performance accuracy and F-score value are reported to highlight the benefits of the developed frameworks.

Keywords- Deep Learning framework, Sentiment Analysis, Binary PSO method, Convolutional Neural Network (CNN), Support Vector Machine.

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Integrated Student Database and Attendance Management System with Face Recognition

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The Integrated Student Database and Attendance Management System with Face Recognition is an innovative solution designed to streamline and enhance attendance tracking and management processes within educational institutions. This system leverages the power of face recognition technology to accurately and efficiently monitor student attendance, eliminating the need for manual methods such as roll call or barcode scanning. The primary objective of this system is to create a comprehensive and centralized student database that seamlessly integrates with attendance management. By using face recognition technology, the system can reliably identify and authenticate students, ensuring accurate attendance records. The system captures facial images of students during registration, which are then stored securely in the database. During class sessions, the system utilizes video feeds from camera used in the system to continuously analyze and match faces with the stored images in real-time. This process enables instant identification of students present in the classroom, automating the

attendance marking process. Furthermore, the system can generate attendance reports for the class and for the entire institute. The integrated database component of the system provides a centralized repository for storing student information, including personal details and attendance history. This allows administrators and teachers to access up-to-date and accurate data, promoting effective communication and informed decision-making. By implementing the Integrated Student Database and Attendance Management System with Face Recognition, educational institutions can streamline attendance management processes, save administrative time, reduce errors, and enhance overall efficiency. This system offers a reliable and scalable solution to optimize student attendance tracking, promote accountability, and improve communication among stakeholders in the educational ecosystem.

Keywords- Face Detection, Face Recognition, Image Processing, LBPH

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Fire Fighting Robot

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In recent years, there has been an increasing need for efficient and automated solutions to combat fires and minimize risks to human life. This project presents the development of a firefighting robot using Arduino, aimed at tackling fire emergencies in challenging environments. The robot utilizes various sensors and actuators controlled by an Arduino microcontroller board to detect and extinguish fires effectively. The sensors include temperature and smoke detectors, while the actuators consist of a water pump and a nozzle for delivering the extinguishing agent. The Arduino board serves as the brain of the robot, processing sensor inputs, making intelligent decisions, and controlling the actuators based on the fire's severity and location. Firefighting is a necessary yet hazardous profession. Robots that can locate fires before they spread out of control may one day work alongside firefighters to significantly reduce the risk of injury to victims. alot of people have lost their lives in such destructive accidents. Therefore, this project is enhanced to control fire through a robotic vehicle. With the advancement in the field of Robotics, human intervention is becoming less every day and robots are used widely for purpose of safety.Hardware, electronics, and programming make up the three components that make up robot development. The system incorporates a user-friendly interface, allowing remote monitoring and control of the robot's operations through a computer or mobile device. The firefighting robot's effectiveness and efficiency are evaluated through comprehensive tests in simulated fire scenarios, demonstrating its potential as a valuable tool in fire response and mitigation.

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Weather Station Using Iot

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Monitoring the temperature, altitude, and atmospheric pressure has various advantages, so that the farmers can choose which crop to put in agriculture, to maintain environmental control necessary for research or to house

objects that require a constant climate, etc. In addition to detecting such parameters, it is also important to record them in the database so that we can keep track of any changes and determine how quickly each parameter changed. Keeping a record of those parameters is helpful. A BMP180 sensor is used to store these parameters; it measures temperature, altitude, and air pressure. With the use of Python modules, the RasberryPi's microprocessor (small computer) uses the I2C protocol to communicate when under control. When the sensor picks up on these parameters, the RasberryPi will use Python and SQL to record the data in a MariaDB database at the precise time and display it in a GUI built using the Tkinter Python Library. Everything occurs in real time. The GUI will both display and save the temperature, height, and air pressure in real-time.

Keywords- BMP180 sensor, RasberryPi, MariaDB

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Face Detection Based Vehicle Ignition System

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The Raspberry Pi will be used in this project to build a facial recognition system for cars access control. This effort includes sophisticated security features for autos of future generations. The Raspberry Pi will act as a command module for the envisioned sophisticated system. Due to the sophisticated security system, only individuals who are registered and authorized may operate the vehicle. A key is typically required to unlock and start a vehicle. However, our study illustrates the use of facial recognition to unlock and start a vehicle. It will lessen auto thefts in addition to being effective.

Keywords- Smart Vehicle, keyless Vehicle, OpenCV, AI, Raspberry pi, Facial recognition

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ANTI-SLEEP ALARM SYSTEM FOR VEHICLE

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The Anti-Sleep Alarm System for Vehicles is an innovative safety solution that utilizes Arduino and face detection technology to detect driver drowsiness and prevent potential accidents caused by fatigue. This system combines the capabilities of the Arduino microcontroller, a camera for face detection, an alarm mechanism, and a display module attached to the back of the vehicle. When the system detects signs of driver sleepiness, it activates an alarm to alert the driver. If the driver fails to respond within a specified time, the system applies the brakes gradually to slow down the vehicle. Additionally, a "Vehicle Slow Down" message is displayed on the attached display module to warn other drivers on the road. The system's effectiveness in preventing accidents and improving road safety is demonstrated through its integration of face detection, alarm activation, braking action, and visual cues.

Keywords- Anti-sleep alarm system, drowsy driving, Arduino, face detection, road safety, driver monitoring.

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Image Quality Assessment Using Vision Transformer

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As vision transformer provides the best standard for natural language processing tasks, Vision Transformers (ViTs) are primarily designed for image-related tasks, such as image classification, object detection, and image segmentation. Vision Transformers (ViTs) offer an alternative approach to Convolutional Neural Networks (CNNs) for processing visual data. While CNNs have been the dominant architecture for various computer vision tasks, ViTs have gained attention for their ability to capture long-range dependencies and model global context in images. This paper proposes an approach for image quality assessment using a classification model with a vision transformer algorithm. The model is trained to predict the perceived quality score of images. The proposed model consists of a pre-trained or custom ViT architecture, followed by a classification head that estimates the quality score of the input image. The training process utilizes a labeled dataset of images and employs mean squared error as the loss function. The proposed image quality assessment approach has potential applications in various domains, including image processing, multimedia, and computer vision. Image quality assessment using vision transformers aims to automatically evaluate the visual quality of an image by considering its content, structure, and distortion. The objective of image quality assessment is to develop computational models that accurately predict the perceived quality of an image, as perceived by human observers.

Keywords- Computer Vision, Image Processing, Image Quality Assessment, No-Reference, Vision Transformer

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Bird Species Image Identification using Deep Learning

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These days, many inexperienced bird watchers have trouble remembering and identifying all the various bird species. Additionally, in order to save and care for diverse bird species, the general public and newly employed rescue team members lack the ability to do so. They have to go through a difficult process to locate large publications like "Birds of the Indian Subcontinent." In this study, we evaluate a deep learning-based AI model that is good at identifying birds from photographs and provide the results. One of the top Deep Learning techniques, Transfer Learning, is used in the study's Simple Web App to recognize photographs. To become more familiar with Google's InceptionV3 model,1000 photos with annotations for each of the 325 different bird species in the dataset. The article presents empirical studies that evaluate different approaches and yield insightful results.

Keywords: Deep Learning, InceptionV3, Bird Identification, CNN

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Smart Water Supply in Irrigation Using Raspberry Pi

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Water scarcity and inefficient irrigation practices pose significant challenges to agricultural productivity and environmental sustainability. This paper presents a novel approach to address these issues through the implementation of a smart water supply system using Raspberry Pi. The proposed system leverages IoT (Internet of Things) technologies to monitor and control water supply in irrigation, optimizing water usage, reducing wastage, and promoting efficient irrigation practices. The integration of Raspberry Pi, sensors, and actuators enables real-time monitoring and automation, ensuring precise irrigation based on crop requirements. Experimental results demonstrate the effectiveness and potential of the system in improving water management in irrigation and enhancing agricultural sustainability.

Keywords- Smart irrigation, Raspberry Pi, Water supply

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Efficient Test Case Generation Using Model Based Testing, and Model Paradigm Approach

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One method for testing software is known as model-based testing, where the test cases are produced from a model that represents the functional elements of the system being tested. It is possible to use the system model as a shared and reusable artefact if it is explicitly stated and appropriately reflects the behavior of the system. The model, for instance, can be used to produce a suitable test suite for the SUT. This method is known as model-based testing (MBT). The efficiency, ability, and maintainability of computer code design and model-based systems are continuously improved. However, very little effort has been made to gather evidence to assess their precise connection, edges, and practical challenges. The creation and prioritization of test cases is the goal of this review study. The creation and prioritization of test cases is the goal of this review study. To increase the system's efficacy and efficiency, this will include a test case for redundancy checks. Additionally, we have proposed FSM for the Model paradigm along with this. Refactoring is the process of making changes to an application's source code without affecting how it functions outside. Code refactoring is done to make the code more readable, complex, extensible, and maintainable, among other non-functional qualities. Since redundant test cases are produced because of code smells, test cases tend to be many, necessitating the need to lessen these smells. Statistical Analysis/Methods: In this study, test cases are reduced proactively by identifying lazy class code. This study takes a preventative stance towards test case reduction by identifying lazy class code smells based on the cohesion and dependency of the code and implementing inline class refactoring techniques prior to test case generation, significantly reducing the number of redundant test cases that are generated. The main goal of the suggested work is to create a test model from a UML activity diagram. From the test model, we deduced the test path for composite testing. We also provided several criteria for constructing test paths as well as a method for doing so automatically.

Key Words: Model based testing(MBT), Active Dependancy Table (ADT), Active Dependancy Graph (ADG).

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Attendance Monitoring system using face recognition

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The automatic face attendance monitoring system is a project that records the presence of the students in present in institute or a class. Within this system we can offer an automatic way to count attendance management project. Based on facial recognition and recognition algorithms, this system automatically recognizes a student via CCTV when they enter the institute or in class and signals their present by recognizing them, as well as the techniques to be used to deal with pitfalls such as spoofing. If we compare traditional attendance checks with this system, we save time and also monitor the students. Maintaining attendance is very essential part in all institutions to monitor student performance. Each institution has its own way of dealing with it. Some measure attendance manually using a register or paper method and some have implemented automated methods of attendance using biometrics. Thissystem usesfacial recognition toautomatically detect the presence of students in the classroom without student involvement. Online Attendance Management System Benefits of Automated Student Attendance Management is software designed to manage a student's day-to-day attendance at the university. Here, the subject staff have one less task to mark student attendance and focus on teaching students until the end of class, as attendance is via CCTV by capturing photos of students and storing them in the database. Generated an automatic report withhigh fidelity. Our system also helps us to assess student attendance criteria. A detailed student attendance report is generated weekly and monthly.

Keywords: Face recognition, CCTV, Monitoring, Attendance.

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A Study on Skin Disease Detection and Hospital Recommendation System

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The critical need for accurate and swift identification of skin diseases arises from their multifaceted nature, severity, scarcity, and misdiagnosis by physicians. Effective detection is essential as improper identification and diagnosis of various skin conditions can lead to serious consequences, including metabolic, glandular, and malignant diseases. Some skin conditions may be harmless, while others can be contagious. Such conditions severely impact the physical, mental, and emotional well-being of individuals. Unfortunately, patients suffering from severe skin diseases in remote areas often overlook early symptoms due to the lack of accessible medical facilities, exacerbating their condition [17]. Over time, the severity worsens, making it challenging for doctors to diagnose the disease accurately and provide appropriate treatment. At times, doctors follow lengthy procedures involving various testing methodologies to reach a conclusive diagnosis and prescribe medication. Similarly, even if the detection of a skin disease is successful, individuals may struggle to obtain the proper medication from their doctor, necessitating the assistance of a specialist for further treatment [20]. In such cases, a hospital recommendation system can help individuals find the best hospital and specialized doctors for treatment near their location. Recent advancements in machine learning and deep learning have paved the way for the development of artificial intelligence tools that significantly contribute to the precise detection and

treatment of various complex skin diseases [18]. This paper proposes an efficient approach utilizing deep learning algorithms such as Convolutional Neural Network (CNN) for successful classification and image recognition in the detection of skin diseases. The proposed method utilizes the HAM10000 dataset, which consists of 10,000 images representing diseases such as Melanocytic Nevus, Melanoma, Benign keratosis-like lesions, Basal cell carcinoma, Actinic Keratoses, Vascular lesions, and Dermatofibroma.

Keywords- Convolutional Neural Network (CNN), Machine Learning, skin diseases, Features Extraction

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Gear Throttle Lock for Motorcycle.

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A Gear Throttle Lock for a vehicle having a mounted rotatable accelerator sleeve and throttle housing which is mounted to a handlebar. The Gear Throttle Lock mounts entirely to the accelerator sleeve and rotates in perfect unity with the throttle when it is rotated. The Gear Throttle Lock is mounted between the throttle housing and the rubber/plastic grip's inner end, directly onto the accelerator sleeve. When the single button of the Gear Throttle Lock is pressed, the Gear Throttle Lock engages and uses friction against the surface of the throttle housing to hold the throttle in place. The operator can force the throttle to rotate by overpowering the friction caused by the Gear Throttle Lock, or preferably, they can disengage the Gear Throttle Lock by pressing the single button again, resetting the Gear Throttle Lock to be engaged again by pressing the single button.

Keywords: Gear,Cable,Nut-Bolt,Reliever

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Thermoelectricity Generator (TEG)

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The rapid development of population and vehicle industry in the world during the past 20th century, the demand on passenger vehicles has increased sharply. Only 41% of a diesel engine’s fuel combustion energy is converted into useful work to drive a vehicle and its accessory loads. The remainder is waste heat dissipated by engine exhaust system and also the convection as well as radiation heat loss from engine block. This increases fuel consumption which brings serious energy crisis and has environmental effects. As 30% to 40% of exhaust gases containing heat energy liberated from the internal combustion engine, and having temperature up to 200 o C to 250 o C directly to the atmosphere. So the objective of the work is to utilize that heat energy of internal combustion engine. By utilizing that heat energy of fuel which is consumed in the internal combustion engine can be reduced which increases efficiency of internal combustion engine. The work is to design a duct that can be modified in order to increase the heat transfer so that maximum heat can be dissipated to hot side of TEG module. Further fins can be used in the design of the duct, which will increase heat transfer also.

Keywords: TEG module, Seebeck coefficient effect, ICE, N-P type element Thermocouple.

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INTELLIGENT BRAKING “LOW COST FOR EV”

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The topic of automotive safety has gained significant attention from the general public, policymakers, and the automobile industry. The alarming statistics on road collisions, resulting in approximately 2 million fatalities annually, contribute to this growing interest. In this paper, we present an innovative and affordable crash warning system concept specifically designed for low-budget cars. One common type of collision is the rear-end crash, often caused by driver fatigue leading to delayed reactions. It is crucial to emphasize that no security program can replace the primary safety device in a driver's car. However, many vehicle manufacturers have started implementing groundbreaking technologies that aim to alert drivers and mitigate potential crashes by reducing the impact speed. One notable feature is the Collision Warning with Automatic Braking system. This system employs a long-range sensor to continuously monitor the area in front of the vehicle. If a collision is detected, the driver is immediately alerted, and the system provides additional assistance by automatically applying the brakes to avoid or minimize the impact, whether the collision involves another moving vehicle or a stationary object. Moreover, if the driver fails to respond to the warning and the collision becomes inevitable, the system autonomously activates the brakes to halt the vehicle. This proactive measure significantly reduces the severity of the impact and subsequently minimizes the potential consequences. Furthermore, we discussed the evaluation of these safety programs' effectiveness from a real-life perspective by utilizing traffic incident data. Analyzing the utility and impact of these systems in practical situations can provide valuable insights into their efficacy and contribute to further advancements in automotive safety.

Keywords- Crash, Arduino Ultrasonic System, Automatic Braking

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Real Time Video Processing Using Croma Key (Green Screen) Effect

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Abstract: By collecting pictures or films of people in regular settings with a handheld camera, we have suggested a method for constructing a matte - the per-pixel foreground color and alpha - of a particular individual. A green screen backdrop or a manually drawn tree map are necessary for the majority of innovative matting techniques to produce a highquality matte. There are now automated, tree map-free methods, however they are not equal. In our tree map-free method, we ask the user to also snap a picture of the background at the same time as the topic. This phase takes far less time than creating a tree map, although requiring some forethought. With an adversarial loss, we train a deep network to predict the matte. We initially train a matting network with directed loss using synthetic composites as the ground truth data. The shadow must be removed during editing if you don't want it to show up in the finished output.

Keywords: Green Screening, Neural Network, Deep Learning etc.

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A Review: RACK AND PINION AUTOMATIC GATE

Vivek Patil Gaurav Sampat, Anil Yadav

Automatic gate is one of most needed thing to use in house-holds, bungalows, industrial installations, Offices, Housing societies. Different mechanisms used to operate a gate such as a sliding on screw or on rack and pinion, piston operated, rotary. Most of the products we used in our country imported from foreign country. The objectives of this project is to study, analyse, and develop a cost effective mechanism that is cheap, safe easily available and installation is simple as well.. Here, the system components used in the mechanism are selected, the theoretical design of the components is done , solid modelling of the components is done using Unigraphics Nx. The components are then checked for maximum stress using Ansys work bench. The fabrication of the components is done using suitable methods and the assembly of the components is done to develop the automatic gate using rack and pinion mechanism Keywords: Automatic gate, rack- pinion, design, analysis.

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Revolutionizing Student Engagement: Building a Cutting-Edge Student Interaction System with MERN Stack and Next.js

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Abstract: The creation of a Student Interaction System utilizing the MERN stack architecture and the Next.js framework is proposed in this research paper. The suggested system intends to provide a modern and efficient platform for students and instructors to communicate and participate in a simple and easy-to-use way. The system includes emerging technology from the last decade for hyper-performance that older systems do not have. MongoDB serves as the database, Express.js and Node.js serve as the server, and React.js and Next.js serve as the front-end framework. The suggested system's performance was examined via load testing, which demonstrated that it can manage many concurrent users without degrading system response time. Overall, the suggested approach offers a novel and effective alternative for student-educator interaction and engagement.

Keywords: Express.js, load testing, MERN stack, MongoDB, Next.js, Node.js, performance evaluation, React.js, Student Interaction System

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Predicting Stock Market Trends with Machine Learning: A Comprehensive Study

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Abstract : The creation of a Student Interaction System utilizing the MERN stack architecture and the Next.js framework is proposed in this research paper. The suggested system intends to provide a modern and efficient platform for students and instructors to communicate and participate in a simple and easy-to-use way. The system includes emerging technology from the last decade for hyper-performance that older systems do not have. MongoDB serves as the database, Express.js and Node.js serve as the server, and React.js and Next.js serve as the front-end framework. The suggested system's performance was examined via load testing, which demonstrated that it can manage many concurrent users

without degrading system response time. Overall, the suggested approach offers a novel and effective alternative for student-educator interaction and engagement.

Keywords- Express.js, load testing, MERN stack, MongoDB, Next.js, Node.js, performance evaluation, React.js, Student Interaction System

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DNA Classification Using Machine Learning

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University of Dr. Babasaheb Ambedkar Technological University, Maharashtra , India

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Abstract: The creation of a Student Interaction System utilizing the MERN stack architecture and the Next.js framework is proposed in this research paper. The suggested system intends to provide a modern and efficient platform for students and instructors to communicate and participate in a simple and easy-to-use way. The system includes emerging technology from the last decade for hyper-performance that older systems do not have. MongoDB serves as the database, Express.js and Node.js serve as the server, and React.js and Next.js serve as the front-end framework. The suggested system's performance was examined via load testing, which demonstrated that it can manage many concurrent users without degrading system response time. Overall, the suggested approach offers a novel and effective alternative for student-educator interaction and engagement.

Keywords- Express.js, load testing, MERN stack, MongoDB, Next.js, Node.js, performance evaluation, React.js, Student Interaction System

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3D-CNN Empowered Assistive Machine Learning Model For The Hearing Impaired

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Abstract: According to the World Report by WHO on Hearing published in March, 2021, nearly 2.5 billion people will be deaf or hard of hearing by the year 2050. In 2020, the uncorrected hearing loss in the world costs about $1 trillion.[1] In order to communicate effectively with persons who are deaf or hard of hearing, sign language serves as an interface. Hand, finger, arm, head and facial expressions are all part of a sign language that includes gestures and symbols. Using visual descriptions, they are able to better understand the world around them and hence contribute to society. In today's world of impulsive technologies, building an assistive sign learning paradigm is a significant issue, particularly because many sign language apps are ineffective at identifying the signs they are intended to teach.[2] In the proposed framework, gestural recognition is being performed using a 3-D Convolutional Neural Network (3-D CNN).[3], [4] Once trained, it can recognize patterns in volumetric data like videos and reliably identify the features it needs. Although, it is

intended for dumb and deaf persons to use sign language to communicate with others, the proposed system seeks to comprehend some key features of sign language and convert them into text or voice using 3- D CNN. Intermediary translators are no longer needed as a result of this change. To this aim, this paper proposes a model which will enable hearing impaired persons to communicate easily with a world around them.

Keywords: Assistive sign language, ASL, Hearing disability, 3-D CNN, Machine Learning, Gesture.

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Online Voting System with Face Recognition and One Time Password

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Abstract: The electoral process is the foundation of democracy and governance. Within the last few decades, the election system has effectively undergone a number of modifications. Despite having the largest majority rule government in the world, India still uses either secret ballot voting (SBV) or electronic voting machines (EVM), both of which are expensive, labor-intensive, and wasteful. The current method merely checked identifying documents, increasing the likelihood of fraudulent votes. The main goal of this system is to provide an online voting system that, by using a camera for face recognition and OTP generation, will help to reduce voter fraud in manual voting systems and earlier iterations of online voting. Additionally, we are building a method of remote voting. to voters who are unable to travel to their hometown's polling place. To guarantee the dependability of the device, we are supplying software that has multiple layers of verification, including face recognition or verification, OTP verification, and validation data. Only after being authenticated and matched with the provided voter database may a single voter access the system. The voter will be able to continue choosing their chosen candidate from the panel once the corresponding face has been matched with the data provided.

Keywords: Smart Voting System, Facial Recognition, OTP, Voter ID, Candidate Registration

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Modern Threat Detection Systems: Leveraging YOLOv7 Computer Vision Model for High-Performance Detection of Fire, Violence, Weapons and Accidents

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Abstract - The use of computer vision techniques has significantly improved public safety and criminal prevention. The recognition of fire, violence, weapons, and accidents is the main emphasis of the in-depth analysis of computer vision applications in threat detection in this review paper. We are acquainted with current security systems that need human resources to report any crime. But this intervention may cause unnecessary lag in the security system. Our system design allows the benefactor to report threat in real time The main goal of this research is to create a computer vision model using the YOLOv7 architecture that can quickly and accurately identify various types of criminal activity. The suggested model makes use of the You Only Look Once (YOLO)v7 object detection framework, which blends convolutional

neural networks and YOLO architecture. The model achieves cutting-edge performance in terms of accuracy, speed, and robustness by utilizing deep learning approaches. This paper's goal is to visually detect threats. The YOLOv7 algorithm is used as the suggested technique.

Keywords- Image Processing, Computer Vision, YOLOv7 Algorithm, Object Detection

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Thermal Image Processing for Disease Detection In Animals

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Abstract: Our research project aims to explore a novel approach to detect disease in animals through the use of thermal imaging technology. The use of heat maps and object detection can provide a non-invasive way to identify illness in animals, allowing for early diagnosis and treatment. This method of disease detection is especially valuable in zoos, conservation areas, and wild animal populations, where tagging is not always feasible or practical. By eliminating the need for tags and other invasive procedures, we can ensure the well-being of the animals and contribute to the preservation of endangered species. We hope that through this research, we can provide a more humane and effective way to monitor the health of animals.

Keywords- Animal disease prediction, thermal images, machine learning algorithms, image processing, feature extraction, targeted analysis, RGB processing, temperature prediction, disease classification, veterinary medicine.

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Sign Language Recognition

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Abstract : The world is hardly live without Communication whether it is in the form of text, voice or Visual Expression. Sign language is a visual form of communication that is frequently used by those who have trouble speaking or hearing. It is only a language of optical communication because of its unique grammar, which differs significantly from that of vocal languages. There are many different sign languages around the globe, and each is primarily used in a certain country. The inability to speak is regarded to be a real handicap. In order to communicate with others, people with this handicap use a variety of methods, with sign language being one of the most popular. The CNN model's architecture was designed to glean relevant data from the ASL images. Convolutional layers are often used for feature extraction while pooling layers are used for downsampling. To predict letter classes, numerous convolutional and pooling layers can be stacked, followed by fully connected layers and a SoftMax output layer. The development of this CNN-based ASL letter prediction system aims to advance the field of sign language recognition technology by fostering inclusion and effective communication for the deaf and hard-of-hearing community.

Keywords: American Sign Language, Gesture Recognition, ASL Alphabets, ASL Numbers, Preprocessing, CNN

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A Survey on Image Steganography using LSB Algorithm

Deepti Chaudhari, Hetvi Patel, Anushri Ghosh, Neha Patil, Vikas Pawar5 Yogesh Sonawane

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Abstract: Today's technology is developing very quickly, and as a result, the world is becoming more transparent and nothing is kept secret. This provides hackers the opportunity to access the information and utilise it for their own purposes. It is incredibly dangerous for everyone when our personal information is used for evil intent. Some of the data in this open world ought to be extremely private and impenetrable to hackers. Here, in our work, we have created a model that would conceal the sensitive information from hackers in a way that, even if the hacker were to successfully obtain the data or file, they would not be able to decipher the concealed message or the main purpose of the file. This project's major goal is to give people protection and hide their private information from the public.

Keywords: Steganography, LSB algorithms, Python,

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A Constructive Literature Review on Disease Diagnosis of Kidney, Heart, Lung and Brain using AI

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Abstract : The growth of Artificial intelligence (AI) in the healthcare industry tremendously increases the patient outcomes by reshaping the way we diagnose, treat and monitor patients. AI based innovation in healthcare include exploration of drugs, personalized medicine, clinical diagnosis investigations, robotic-assisted surgery, verified prescriptions, pregnancy care for women, radiology, and reviewed patient information analytics. These innovations provide prompt, economical, and better-qualified solutions for modern prognosis, prevention, medication, and healthcare breakthroughs. In this paper, a constructive literature review is presented on Kidney, Brain, Heart, and Pulmonary disease diagnosis using AI. The detailed literature review of individual disease diagnosis gives a complete picture of various research efforts during the last two decades. At the end of each disease diagnosis review, we have discussed our inferences that will give future directions for the new researchers.

Keywords: Artificial Intelligence, Brain, Disease diagnosis, Kidney

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Fake Product Identification By QR Using Blockchain

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Abstract: One of the biggest challenges in today's retail market is the counterfeiting of products. Counterfeiting products are just low-quality copies of some genuine brand.Many different methods have been adopted from time to time to combat the counterfeiting of the products such as RFID tags,artificial intelligence, machine learning, QR code-base system,and many more. But these methods have their disadvantages such as QR code can copy from a genuine product to a fake product, artificial intelligence and machine learning need high computational power to do operations, and many more methods adopted but a fulfilled method has not been developed. In this project, we have tried to improve the detection of fake products with the help of blockchain technology. Our method is to store the supply chain of products at every stage of the transaction of a product to a new party with the help of a QR code. Blockchain helps us to store the supply chain of products as a blockchain-based system makes a decentralized system and one of the main advantages of blockchain is that if the data is recorded in the system, then nobody can change it at any cost so it makes our data more secure and protected from the third parties

Keywords: Counterfeit(Fake) product, QR code, Blockchain, Supply Chain, Transaction history.

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Blockchain Based Document Verification System

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Abstract: Verifying academic papers might take a while, especially if manual inspections are required. Between the parties engaged in the verification process, such as an employer or educational institution, there may occasionally be a lack of confidence. Academic materials stored and verified using conventional techniques may be subject to security lapses like data loss or theft. Therefore, a blockchain-based system can automate this procedure, saving the resources and time needed for verification. It may offer an unbiased, open forum for document verification, fostering confidence between the parties. By leveraging decentralise storage, a blockchain-based system can boost the security of documents that are kept there.

Keywords: Blockchain, Smart Contract, Truffle, Ganache, React.js

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Emotion Detection Using Deep Learning

Shraddha Belhekar, Priya Patil, Snehal Hulule, Tanvi Ghare, Dhammjyoti Dhawase

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Abstract - An important area of research is the detection and recognition of emotions using visual features extracted from facial expressions. This paper presents a project that focuses on developing an emotion recognition model using the ResNet50 deep learning architecture and training it on the AffectNet dataset. The achieved accuracy of 87% demonstrates the effectiveness of the proposed approach. The applications of this project are wide ranging from human-computer interaction to psychology, medicine, education and crime detection. The paper also highlights future directions for improving model accuracy and performance. Suggestions include modifying the model layers and exploring larger and more diverse datasets to improve the training process. Additionally, the integration of multimodal data, such as combining facial expressions with voice analysis or physiological signals, holds promise for improving the robustness and accuracy of emotion recognition systems. Cultural and contextual factors that influence emotional expressions should be taken into account to develop more culturally sensitive models. Additionally, optimizing the model for real-

time deployment on resource-constrained devices such as smartphones or wearables can expand the practical applications of emotion recognition systems. By focusing on these future research directions, this paper aims to contribute to the development of emotion detection and recognition systems, which will ultimately lead to more accurate and versatile applications in various fields.

Keywords: Emotion detection, Facial expression recognition, visual features

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Traffic Sign Detection and Recognition in Difficult Weather Conditions

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Abstract: Traffic sign detection and recognition is an emerging study field which is gaining popularity because of the arrival of computer vision and deep learning in modern vehicles. With changing climatic conditions and environmental risks, it is difficult for modern day automobiles to distinguish street signs. In this study, the TSDR problem across various CCs (Haze, Snow, Dirty Lens, Lens Blur, and Rain) is examined. With an emphasis on the consequent performance deterioration, we propose a TSDR architecture with a prior improvement focusing on convolutional neural networks (CNN). The four modules that produce the most accurate results in detecting and recognizing traffic signs (Challenge Classifier, Enhancement Block, Sign Localizer, and Sign Classifier) are adaptable and may be modified based on current weather conditions. The CURE-TSD dataset, which includes of traffic recordings captured with various CCs, is used to evaluate the efficacy of strategies outlined.

Keywords: Deep Learning, Challenging Conditions, Convolutional Neural Networks, Traffic Sign Recognition.

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Driverless Car

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Abstract: A Driverless car is capable of sensing the surrounding and move on its own through traffic and obstacles with no human input. The car detect the object along its path and take design either stop, slow the speed of car or the continue moving. The method employed in designing the driverless car involves the use of, Raspberry Pi 4 small computer, L298N H Bridge and motor drivers, Ultra Sonic Sensor, Webcam as part of the major components in the design. Also incorporated in the Driverless car is a 12Vdc and a 5Vdc power supply unit, In the software haar cascade classifier, Custom Data set. The Driverless car demonstrates its ability to perform Drive with no human interaction.

Keywords: Driverless, Raspberrypi, selfdrivingcar

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Depression Prediction Using Machine Learning

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Abstract: Social Media Platforms such as Twitter, Instagram and Facebook has changed the life of people Worldwide. People are now connected more than ever and reveal a sort of digital persona. Social Media has many advantages but it has many undeniable disadvantages also. Depression is a medical condition in which a person continually feels sad, unhappy and also has anger issues. For only this purpose, we have trained and tested different classifiers to find whether a user is depressed on social media or not using features extracted from his/her activities in his social media tweets. This study's main contribution is its impact on early detection of depression. Our Model is based featuring focuses on the linguistic features of the social media text, such as tweets. We will focus on only one social media platform which is Twitter in our case. In this research study we have applied stacked generalization to some of the machine learning algorithms in which LR is applied as meta model whereas SVM, KNN, RF are applied as base model, this method will help in increasing the accuracy for finding the depression

Keywords: ML-Machine Learning NLP-Natural Language Processing SVM- Support Vector Machines KNN- K Nearest Neighbour RF-Random Forest LR-Logistic Regression

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Impact of Point Mutation on Shigella Toxin: A Molecular Dynamics Simulation Study

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Abstract: The causative agent of gastroenteritis is Shiga toxin, which belongs to a functionally and structurally associated protein family despite each individual having a unique amino acid sequence. After entering the ER lumen and relocating the toxic domain to the cytoplasm, they alter the large subunit of rRNA, preventing protein synthesis and ribosomal damage. Shigalike toxin 1(SLT-1) subunit B targets glycolipid receptor Gb3, which plays a significant role in cytotoxicity. Though the mutational effect on subunit B is important for cytotoxicity study, we have yet to have a better understanding. Our present study targets the mutational impact of glycine protein at their 62nd amino acid sequence of subunit B. For example, how it can alter the receptor-binding capacity and virulence. We used in silico method with GROMACS software suite (version 5.2, 2020.1) on Google Colab for a 100ns (100,000ps) simulation period and UCSF Chimera software for visualizing mutant and wild-type structure similarities. Surprisingly, RMSD, RMSF, and Rg trajectories from the simulation analysis indicated a more stable and compact mutant structure than the wild type. Principle component analysis (PCA) and SASA were visualized for the entire 100ns, which pointed towards homogeneity between both structures and more solvent accessibility in the mutant structure. This mutation may elevate

receptor-binding and virulence capacity. Moreover, this finding can offer a better target for future experimental procedures toward vaccine production.

Keywords: Shiga toxin; Shiga-like toxin 1 (SLT-1) subunit B; molecular dynamics simulation; mutation; pca analysis; gromacs.

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A Proposed Algorithm for Open Shop Scheduling Problem with Breakdown Interval, Transportation Time in Fuzzy Environment

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Abstract: The open shop scheduling problem is one of the scheduling problems and has many applications in many industries. The problem is how to allocate time for different tasks on different machines, e ach with a specific process. Since each machine can only run once at a time, the order in which tasks are completed on the machine does not affect the schedule. The goal is to create a schedule or completion time for the work performed by the machine to optimize the business model. In order to provide a successful blueprint for future store opening challenge research and to share the research potential, we present a new and detailed analysis of studies focused on downtime reduction. Th e two open scheduling systems discussed in this research involve different tasks, set time and carry time in fuzzy space. In this study, two machine shop problems were run considering transport time, idle time and workload. In addition, a preliminary decision is made that the next job cannot st art on one machine until the previous job is completed on all machines. To the best of the authors' knowledge, this study is the first to address the problem of the store, including transit time, idle ti me, weight of work, and significant limitations. The optimization method is ineffective, as the time problem of minimizing production time as one of the objectives is NPhard .Describe a heuristic algorithm that chooses the best job to run the process in the shortest amount of time. It is based on some mathematical theorems.

Keywords: Open shop scheduling, Completion times, Job blocks, Setup times, Average high ranking, Transportation times.

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Heart Disease Prediction using Machine Learning

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Abstract: Machine learning-based heart disease prediction is a new field of study that tries to create models that can precisely predict a person's likelihood of getting heart disease based on numerous demographic and health-related indicators. In order to evaluate vast volumes of patient data and find patterns that are suggestive of heart disease risk, this method makes use of recent developments in data gathering, computers, and machine learning techniques. Numerous machine learning algorithms, such as K-Nearest Neighbors (KNN), Decision Tree Classifier, Random Forest, and Support Vector Machines (SVM), among others, have been used to solve this issue. Large datasets containing patient demographic, lifestyle, and medical information, as well as information on their status for heart disease, are used to train

these algorithms. The models are then evaluated based on their accuracy and ability to predict heart disease outcomes. One of the key advantages of using machine learning for heart disease prediction is its ability to identify complex relationships between the predictors and the target variable, which can be difficult to uncover using traditional statistical methods. Additionally, machine learning models can handle large amounts of data and multiple predictor variables, making them wellsuited for this problem. However, there are also some challenges associated with using machine learning for heart disease prediction. One major challenge is ensuring that the models are robust, fair, and unbiased, especially in light of the prevalence of heart disease among different demographic groups. Another challenge is the need for large, high-quality datasets that are representative of the population, which can be difficult to obtain. Heart disease is predicted using a variety of machine learning approaches, including Decision Tree Classifier, K-Nearest Neighbors, Support Vector Machine, and Random Forest.

Keywords: K-Nearest Neighbors, Random Forest, Decision Tree Classifier, Support Vector Machine.

111

Crime Examination and Forecasting using Machine Learning

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Abstract: Crimes are a social irritation and cost our society deeply in several ways. Any research that can help in solving crimes quickly will pay for itself. About 10% of the criminals commit about 50% of the crimes. The system is trained by feeding previous year record of crimes taken from legitimate online portal of India listing various crimes such as murder, kidnapping and abduction, dacoits, robbery, burglary, rape and other such crimes. As per data of Indian statistics, which gives data of various crime of past 10 years (2001-2010) a regression model is created and the crime rate for the following years in various states can be predicted. We have used supervised machine learning technique on the crime records for knowledge discovery and to help in increasing the predictive accuracy of the crime. This work will be helpful to the local police stations in crime suppression.

Keywords: SVM (support vector machine), Crime prediction, Regression, Machine learning.

112

A System On E - Health Care Card Using QR Code

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Abstract: The healthcare system in nations that are developing is one of their major concerns, so technological advancement has grown progressively more essential today. Smart card systems are essential in unexpected occurrences like accidents and when specialists conclude that someone requires rapid treatment in challenging circumstances. A dossier is kept when a baby is born containing details like the blood type, the date of vaccinations, obstacles with allergic reactions, and many other vital details. The medical system in emerging economies is one of their biggest concerns, so technology for healthcare is becoming increasingly important today. Request for ways that reduce the cost of medical services has risen as a result of increased social insurance costs. The necessity of coordinating the latest advances in the

capacity and exchange of therapeutic data constitutes one of the handful of participants of the two sides participating in the social claim over the best procedure for minimizing prices in the context of human care architecture.

Keywords: E-health care card, QR Code, Mysql

113

Video Regeneration Using Image Diffusion Model

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Abstract: In this paper, a new technique for video editing using a combination of custom image diffusion models and frame interpolation. method utilizes the custom image diffusion models to enhance or edit the video frames and generate high-quality outputs. Also, incorporation frame interpolation techniques to perfect the temporal resolution of the edited pictures. The approach involves applying the diffusion models to each video frame separately after sorting according to quality and speed as needed and then using interpolation to create a smooth transition between the edited frames. experiments demonstrate that method achieves faster with relatively less loss of quality results compared to existing video editing methods. The evaluation of the impact of different control net models on the quality of the edited videos. The work provides a new direction for video editing using image diffusion models and frame interpolation and can be applied to various video editing applications.

Keywords: Computer vision, control net, diffusion models, image diffusion, image processing, image interpolation, machine learning, , video editing, video synthesis.

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A Review: Design, Analysis & Optimization of Battery-operated Swing arm two-way sprayer

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Abstract: Pesticides are used to kill insects or otherwise control their reproduction. These herbicides, pesticides, and fertilizers are applied to agricultural crops with the help of a special device known as a "Sprayer," sprayer provides optimum performance with minimum efforts. By the invention of sprayers, this enables farmers to obtain the maximum agricultural output. A pesticide sprayer has to be portable and with an increased tank capacity as well as should result in cost reduction, labour and spraying time. In order to reduce these problems, there are a number of sprayer introduced in the market, but these devices do not meet the above problems or demands of the farmers. The conventional sprayer having the difficulties such as it needs lot of effort to push the liver up and down in order to create the pressure to spray. Another difficulty of petrol sprayer is to need to purchase the fuel, which increases the running cost of the sprayer in order to overcome these difficulties, we propose equipment that is wheel driven vehicle, it is a battery-operated device for spraying and no need of any fuel to operate, which is easy to move and sprays the pesticide all over field by moving the wheel. This battery-operated pesticide spray equipment consumes less time and avoids the pesticide from coming from front of the nozzles which will in contact of the person who sprays pesticides. The mechanism involved in this sprayer is reciprocating pump, which is driven by the wheel. Agriculture sprayer vehicle operates the pump via battery automatically as it moves, pump is mounted on vehicle so no stress to operator, very low cost. The tank is mounted on the vehicle so the farmer / labor does not have to carry it, so less fatigue.

Keywords: Mechanization, Sprayer, Pesticide, fertilizer.

115

Empowering Smart Homes: A Comprehensive Integration of IoT and Android App for Home Automation

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Abstract: With the availability of high-speed networks like 4g, 5g and long-term evolution (lte) coupled with cheaper and accessible smartphones, the mobile industry has witnessed significant growth in providing various services and applications to users. Internet of things (iot) is a promising technology that enables the connection, control, and management of intelligent objects. It has applications in smart governance, smart education, smart agriculture, smart healthcare, and smart homes, allowing for efficient and seamless delivery of services. This paper explores the concept of iot and its utilization in realizing smart home automation through the integration of a microcontroller board and an android mobile application. Two prototypes, namely home automation using Bluetooth in an indoor environment and home automation using ethernet in an outdoor environment, are presented.

Keywords: internet of things (iot), home automation, smart cities, Arduino, android Bluetooth, ethernet, mobile app.

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Fire Surveillance System using Wi-Fi

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Abstract: With the advancement of technology, the internet is improving as well as the development of the internet of things. Buildings are getting clever and the trend is escalating. Wireless nerve networks play an important role in this concept. This concept deals with one of the most widely used applications for wireless sensor networks, that is, in the field of navigation. In the event of an emergency, the wireless sensors detect the danger and direct the evacuees to remote areas through physical contact on the Internet. Emergency navigation is essential to get rid of trapped users to get out of the vicinity. Our focus is not only on directing users who provide the shortest route but also the safest way. This helps to prevent congestion and leads to the use of alternatives that are often left unused thus improving the survival rate of exits.

Keywords: Internet, Wireless Sensor, Emergency, navigation, wireless sensor networks

117

AI and ML in Optical Networking

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Abstract - Artificial intelligence (AI) encompasses a broad field of scientific study that allows computer systems to tackle problems by imitating intricate biological processes such as learning, reasoning, and self-correction. This article provides an indepth evaluation of how AI techniques can enhance the performance of optical communication systems and networks. Initially, the paper explores the implementation of AI-based techniques in optical transmission applications, covering aspects such as network component characterization, operational processes, performance monitoring, nonlinearities' mitigation, and transmission quality estimation. Additionally, it examines applications pertaining to optical network control and management, including topics like planning and operation in both transport and access networks. Lastly, the article concludes by summarizing the imminent prospects and challenges in optical networking where AI is projected to assume a pivotal role

Keywords: learning, reasoning, self-correction.

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Blockchain Based Decentralized Secure Cloud Storage System

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Abstract: The use of blockchain has the capacity to transform the storage and management of data. Through the establishment of a secure, decentralised ledger of transactions, blockchain technology can offer improved levels of transparency, privacy, and accountability in contrast to conventional centralised storage methods. In this project, we aim to create a blockchainbased storage solution that addresses the limitations of current storage systems. A secure, decentralised, and transparent way to store and manage data will be provided by our solution, which will utilise a combination of encryption and blockchain technology. By implementing a distributed storage network and a consensus mechanism, we aim to ensure high availability, reliability, and security for our users. The goal of this paper is to provide a scalable, secure, and user-friendly storage solution that meets the needs of a variety of industries and users.

Keywords: Blockchain; Decentralised; Centralised; Encryption; Consensus; File storage; Cryptography; Cloud Computing; Security; Privacy.

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Design Modifications Techniques Used In Microchannel Heat Sink for Heat Transfer Augmentation.

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Advancement in technology has led to the development of microscale heat transfer devices, these devices in compact size offer high heat transfer coefficient. Microchannel heat sinks (MCHS’s) are currently projected as a twenty-first-century cooling solution. Increasing the efficiency of MCHS’s is vital to ensure the integrity, long life, and wide applicability of these little miniatures. The present work reviews different ways (design modification) by which the thermal-hydraulic characteristics of conventional MCHS are improved within the

acceptable pressure drop penalty. A comprehensive review of various passive and active techniques used for heat transfer enhancement such as pinfins, flow disruptions, surface roughness, channel curvature, re-entrant obstructions, secondary flows, fluid, and flow pulsation, flow maldistribution mitigation techniques etc.

Keywords- microchannel, heat transfer, heat flux, single-phase flow, two-phase flow

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Cyber Security

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Abstract: In today's world dominated by technology and networks, it is important to know what cyber security is and to know how to use it effectively. Systems, important files, data and other important virtual things are at risk if they are not protected. Whether it is an IT company or not, every company should be equally protected. As new cybersecurity technology evolves, attackers are not left behind. They use better and advanced hacking techniques and target the weak points of many companies. Cybersecurity is essential as military, government, financial, medical and commercial organizations collect, practice and store unprecedented amounts of data on computers and other devices. A significant portion of this information may be sensitive information, whether it is financial information, intellectual property, personal information, or other types of information that could be harmful if accessed or viewed illegally.

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The Dark Web

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Abstract: The Internet plays an important role in our day-to-day life. It has become an integrated part of all daily activities or lifestyle. Dark Web is like an untraceable hidden layer of the Internet which is commonly used to store and access confidential information. But there are several incidents which reported the misuse of this platform for conducting criminal and illegal activities in a hidden manner. In this paper, an overview of dark web and various browsers which are used to access dark web are presented. An insight into various aspects of Dark Web such as features, advantages, disadvantages and browsers are discussed. An overview of the different types of attacks, exploits and malware is also presented. There are different types of criminal activities and incidents which take place over the Dark Web are discussed so that readers can become aware of such types of activities and can take appropriate preventive measures for these activities.

Keywords: Crypto Currency, Dark web, Hacking, Illegal activities, Privacy, Tor Network.

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The Internet

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Abstract: The evolution of the internet, its enormous effects on numerous facets of society, and its potential future prospects are all explored in this review essay. We begin with the creation of the internet and follow its history from a research project to its current ubiquity and worldwide reach. We explore the development of internet protocols like TCP/IP, which have aided in the smooth transfer of data between networks. In-depth research is done on how the internet affects social interactions and communication. We examine the emergence of social media platforms, online communities, and instant messaging, emphasizing how they have impacted communication between people, the sharing of information, and political activism. Additionally, we examine the effects of internet-based communication on cybersecurity, disinformation, and privacy. We consider the potential future developments for the internet. We talk about how the Internet of Things (IoT), 5G, and other cutting-edge technologies could change how people use the internet. We also look at the difficult ties in closing the digital gap and extending internet access to underserved areas. This review paper offers a thorough assessment of the development, significance, and prospects for the internet's future.

Keywords: Evolution, Communication, Generation, Impact, Future prospects.

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IOT Based Automatic Dam Door Opening and Flood Detection System

Shreya Nake, Indraneel Mahekar, Prof. R R Malekar

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Marathwada Mitra Mandal's College of Engineering, Pune, University, Pune, India,

Abstract: This paper presents a design and fabrication approach for an automatic door opening and closing and Flood Detection Through iot So We can Embrace ourselves for Caution, to minimize Damage caused by Flood. To Detects flood, the System Observes Various Natural factors, which includes Water Speed, and Water Level and Flow level. To collects the data of mentioned natural factors. The system consists of Different sensors which collects the Data for individual Parameters. The Water level is always under observation by a float sensor, which work by opening and closing circuits (dry contacts) as water levels rise and fall this project intends to use for monitoring and controlling the water distribution management by usage various sensors, control valves, automatically and proactively manage outflow during Crisis by using Statistical data of the environment. Increase in impact the economy of the country developed to satisfy the demands of the times.

124

CHATBOTS-Let the revolution begin

Vaidehi Patil, Kirtan Patela, Sumedh Pathak, Shivanand Patil, Asmita Patil, Prasannata Ramtirthe

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Abstract: In today's modernized and digitally connected world chatbots have become an integral part of various application and services providing efficient and personalized user interaction. Leveraging the power of natural language processing (NLP) and machine learning techniques. The Chatbot aims to deliver human like conversation offering users an intuitive and seamless experience. Chatbot architecture consists of three main components: Input Processing, Dialogue Management and Output Generation. Input processing phase users' input are processed through NLP algorithms and extract relevant information. The dialogue management component looks after advance machine learning technique. To provide accurate and informative responses. The Chatbot utilizes a vast knowledge that is continuously

updated and augmented with the latest information. Furthermore, Chatbot capabilities are enriched through continual learning from user interaction. User Feedback highlights Chatbot effectiveness in delivering personalized assistance. Overall, this intelligent conversational Chatbot contributes to advancing the field of computer interaction.

Keywords: Chatbot, Natural language processing, Input processing, Dialogue management, Output generation

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Blockchain Based NFT Marketplace

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Abstract: NFTs are rights that can be transferred to digital assets like pictures, films, or music. Since the beginning of 2019, the phenomena and its markets have expanded dramatically. Since a few years ago, there have been an increasing number of NFT marketplaces. For the storage of digital assets or files, most of them use "centralized systems". In this paper, we suggest a safe exchange for exchanging NFTs, which are digital assets. Users will be able to upload fresh digital assets and swap them for cryptocurrencies based on Ethereum. Additionally, we want to investigate if a decentralized file system is technically feasible. By doing this, we want to solve the problem of gas costs and file storage while keeping it affordable. Also, this project is an attempt to advocate the use of blockchain technology.

Keywords: SVM, RGB, Grey Level Co-occurrence Matrix.

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Analyzing Load Balancing Techniques for Cloud Computing: Pros, Cons, and Emerging Trends

Sarthak Sharma, Bhavish, Rupinder Singh, Jaskaran Singh, Sanjeev Kumar

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Abstract: Load balancing is essential for optimizing cloud based applications' performance by automating resource allocation. As demand for advanced cloud applications and services continues to grow, so does the need for more efficient load balancing algorithms. In this article we have comprehensively reviewed the latest advances in load balancing methods used to handle different amounts of workload. We have provided a detailed overview of various algorithms used for load balancing, including but not limited to round-robin, genetic algorithms, ant colony optimization, and other static, dynamic, and nature-based techniques. Tests have been conducted thoroughly to review the advantages and disadvantages of each technique and its impact on cloud performance, resource utilization and scalability. Additionally, the report highlights the latest trends in load balancing research such as combining artificial intelligence and machine learning methods with different algorithms for better performance. We have concluded the article by outlining future research directions in this area, emphasizing the need for further automation and optimization of load balancing techniques.

Keywords: Load balancing, cloud computing, static algorithms, dynamic algorithms, nature-based algorithms

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Fruit Recognition Using Image Processing

Sakshi Patil, Kunal Mhaske, Omkar Ghanwat, Rutuja Palkar, Prof. Pankaj Shinde

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Abstract: The ability to recognize fruits based on quality in the food sector is highly crucial nowadays since everyone is health aware. In the market, there are several sorts of fruits. However, identifying the highest quality fruits is a difficult undertaking. As a result, we developed a system that detects fruit in natural lighting circumstances. The methods employed include texture detection, colour detection, and form detection. We employ picture segmentation to recognize certain fruits in this way. The Fruit Detection project is built using the MATLAB image processing package. The project is designed to work in both real and non-real time. The suggested technique consists of four stages: the first is pre-processing, the second is feature extraction, the third is segmentation, and the fourth is recognition. In the event of non-real time, the first step is used to explore the picture, and the second stage involves feature extraction from images utilizing Grey Level Co- occurrence Matrix (GLCM), RGB, and Colour Histogram. The image will be converted from RGB to grayscale for further processing by the system. The colour histogram depicts the colour distribution of a picture. Because the photograph was recorded under varied lighting conditions. The three extracted images are acquired in the third stage in the form of red, green, and blue. The collected features are utilized as input to the Support Vector Machine (SVM) classifier in the fourth step. The fruit's name is then output.

Keywords: SVM, RGB, Grey Level Co-occurrence Matrix.

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Untangling the Mysteries of Artificial Intelligence

Sham Sambare, Harish Salve, Harshvardhan Sankpal, Shrutika Salve, Tejas Sasane,

Shraddha Deshpande

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Abstract: Artificial intelligence is a developing field after sometime this field get more achievement in their era. This presentation provides a comprehensive guide to exploring AI and understanding its applications. The availability of data, computational power and algorithmic sophistication, ai has demonstrated remarkable capabilities across various domain. Research paper provides a review of ai, exploring application, benefits, disadvantages. Through an extensive literature review and analysis impact of ai in industries, healthcare finance and transportation. we highlight how ai revolutionized processes, improved decision making and enabled automation in the sector.

Keywords: Artificial Intelligence, Types of Ai, Benefits, Revolution

129

E-Waste Management

Samta pudke, Vaishnavi Pednekar, Prathamesh Podala, Mithesh Pote , Sandeep Pingale.

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Abstract: This project is going to focus on e-waste management of laptops, which aims to address the growing environmental concerns associated with electronic device like laptops which is waste disposal. The project seeks to

implement effective strategies for the collection, recycling, and proper disposal of e-waste to minimize its negative impact on the environment. This review evaluates the project's objectives, methodology, findings, and potential implications for sustainable e-waste management.

Keywords: E-waste, Waste management, Recycling, Sustainable, Challenges, laptops.

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Consequences and Solutions of Deforestation: India

Prathmesh Malunjkar, Pranav Mankar, Niraj Matere, Aryan Maurya, Himanshu Meshram,

Dr. Prasannata Ramtirthe

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Abstract: Deforestation is a serious problem that has significant consequences for the environment, and India is facing its own challenges in this regard. This paper aims to provide a detailed analysis of deforestation in India, including its causes, impacts, and ways to conserve forests. By reviewing studies, reports, and data, this paper sheds light on the extent of deforestation, the reasons behind it, and the ecological and socio-economic effects. It emphasizes the importance of adopting sustainable forest management practices and conservation measures to minimize the negative impacts of deforestation in India. Deforestation happens when natural forests are cut down to meet human demands for certain products. This indiscriminate tree cutting has led to a global reduction of 3.16% in forest cover. While India has seen a slight increase of around 1% in total forest cover, there are still regions in the country where forests are decreasing. The main causes of forest loss include practices like shifting cultivation, rotational felling, and pressures from other living organisms. Additionally, forest lands are often diverted for developmental activities. Illegal logging continues to be a problem, affecting the water cycle, soil quality, biodiversity, and overall vulnerability of the country to environmental changes. To address deforestation, it is important to implement sustainable forest management practices. Alternatives to shifting cultivation, promoting tree plantations outside of forests, and using certified forest products are some of the measures that can help reduce deforestation rates and mitigate its impacts.

Keywords: E-waste, Waste management, Recycling, Sustainable, Challenges, laptops.

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Fall Detection for Elderly People with SOS alert

Ajay kumar, Gudapati Supraja, Mr.Panthagani Vijaya Babu

Electronics and Telecommunication, Savitribai Phule Pune University or Marathwada Mitra Mandal’s College of Engineering, Pune, Maharashtra, India.

Abstract - Falls among elderly people provide considerable health hazards, frequently cause severe injuries, and lower quality of life. The design and development of an Internet of Things (IoT) gadget for detecting falls in older people are discussed in this research article. The suggested device tracks the wearer's movement patterns using a mix of accelerometer and gyroscope sensors. Real-time sensor data analysis and accurate fall event classification are done using a machine learning system. The wearable, inconspicuous, and user-friendly design of the device ensures a high level of acceptance and adoption among older users. With a high detection accuracy rate of 95% and a low false-positive rate. The suggested IoT device is quite robust.

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Review on Social Media

Shraddha Naikare, Vivek Nalawade, Shivani , Sahil Natak, Abhay Navsare.

Guide: Dr Prasannatha Ramtirthe

Nutan College of Engineering And Research

Abstract • The topic “Social media” was undertaken to study the relevance and importance of social media. • It is very important source to advertisement, socially active. • people around the world to share and exchange their beliefs, culture, traditions, • knowledge, views, etc. The study concludes that our education system needs change and social media should be widely utilized for the educational purposes.

133

Title- Renewable Energy Supply and Energy Efficiency Technologies

SHRUTI MUNGASE, ANIKET MULE, OM NAGARE, ABHISHEK NAGARE, HARSH MULE

NUTAN COLLEGE OF ENGINEERING & RESEARCH (NCER)

ABSTRACT: The urgent need to mitigate climate change and transition towards sustainable energy systems has propelled significant research and development efforts in the domains of renewable energy supply and energy efficiency technologies. This review paper presents a comprehensive analysis of the current state of knowledge in these areas, focusing on recent advancements, existing challenges, and future directions. The paper begins by discussing the importance of renewable energy sources in reducing greenhouse gas emissions and achieving energy security. It highlights key renewable energy technologies such as solar, wind, hydro, geothermal, and bioenergy, providing an overview of their principles, efficiency, and deployment status. The benefits and limitations of each technology are evaluated, along with discussions on recent advancements in materials, design, and integration techniques that have enhanced their performance. In parallel, the paper examines the crucial role of energy efficiency in optimizing energy consumption and reducing overall energy demand. Various energy efficiency technologies and strategies are reviewed, including energy-efficient buildings, smart grids, demand response systems, and industrial process improvements. The paper discusses the potential for energy savings, cost effectiveness, and barriers to implementation for savings, cost effectiveness, and barriers to implementation for e ach approach, while emphasizing the importance of policy frameworks and supportive measures for promoting energy efficiency.

Keywords : Energy resources, renewable energy, energy use efficiency, generation technology, carbon emission, green employment

135

Title: Programming Languages

Sarthak Satpute, Adil Shaikh, Aftab Shaikh, Irfan Shaikh, Prince Sharma

NUTAN COLLEGE OF ENGINEERING & RESEARCH

Abstract Programming languages are really important for making computer programs. They help programmers tell computers what to do. Over time, programming languages have changed a lot and gotten better. This research paper is about how programming languages have evolved. It talks about important moments, different ways of doing things, and groups of languages. The paper also looks at how modern programming languages are used and what they can do. It talks about the problems that people who make programming languages face and what might happen in the future. This research helps us understand the history, current state, and future of programming languages.

Keywords- Computer programming, Python, CSS, JAVA, HTML, CSS

136

Sanitary Pads Incinerator Machine

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6Entreprenuer, ABRIGOR MEGACORP MIDC Bhosari, Pune, Maharashtra, India

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Abstract In this sterile napkins incinerator for sterile transfer of utilized sterile napkins to dodge Soil and Water contamination. These machines will arrange the napkins without doing any hurt to Mother Nature in a logical way. Amid this handle, the utilized napkins are changed over in to sterile cinder. With these machine's choice of smoke controller unit is additionally accessible to decrease the discuss contamination altogether from the transmitted gasses discharged amid the transfer handle of clean serviette. We are arranging to advance this eco-friendly machine all over the India at sensible cost to form us a awesomefit for each other. A secure, clean, logical & fast strategy of transfer of Clean napkins is to burn them at generally moo temperature to safe sterile cinder. It helps in moment transfer of utilized napkins in an awfully logical and clean way without producing hurtful outflows. Fauna has ceramic tall thickness cover for outside warm security and auto warm cut off for control sparing.

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Exploration of the Future of Web Development and Emerging Technologies

Author: Paras Nikum , Isha Padhal, Om Pande, Sakshi Parge, Gajanan Patange

Guide: Dr. Prasannata Ramtirthe

NUTANMAHARASHTRAVIDYAPRASARAKMANDAL'S NUTANCOLLEGEOFENGINEERING&RESEARCH(NCER)

Tal- Maval, Dist- PUNE Pin code-410507

Abstract: A web site is the gateway to connecting with the world and sharing information. It is an amalgamation of design, code, and functionality that makes it a valuable resource. Web development has transformed the way we communicate and acquire data from all over the globe. It involves various steps, such as designing the front end, working on the backend, managing the database server, etc.Constructing a website requires knowledge of HTML, CSS, JavaScript and backend frameworks.

Keywords: Web Development, Front end , Backend, Full Stack, Framework , Web Designer, Web Developer

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Neuronlink: An Integrated Brain-Machine.

Meet Modhoriye, Akanksha Mokashe, Nikhil More, Tejas More,Gautami Mudhol, Dr. Madagonda K Biradar.

Nutan College of Engineering and Research, Talegaon Dabhade, Pune 410506

Abstract: In this review paper we will present various analysis of Neuralink. It is a joined Brain-Machine interfaces (BMI) grown by Neuralink corporation. Present study conveys the detailed survey of the key features, progresses, and potential uses of Neuralink also the fundamental principles behind Neuralink. In this technique the surgery which connects the neuron and the spinal cord which gives further information to our body parts to make movements, to walk, to run and many more. BMIs primarily have healing uses, by establishing a connection between spinal cord and their body parts. However, BMIs can also be used in education, to discover emotions, and control elementary practices. Our review deals into the mechanics aspects of neuralink, testing the terminal design, principles, and data conversion. This review explores more about potential future growth, in the way that extending the applications of neuralink further healing paralysed humans. Hence this review aims to cause the understanding this innovative intellect-engine connect. The findings appears that neuralink has the potential to transform human-gadget interactions and solve new potential for empowering human capabilities. Furthermore, it addresses the challenges and concerns guides this emerging science, containing unending safety, solitude concerns, and impartiality of approach.

Keywords-Neuralink , Brain-Machine interface (BMI) Transhumanism , Issues , Real life examples.

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H2 CONCEPT (A ZERO CARBON EMISSION VEHICLE)

Omkar Naikwade, Niraj Nandkhile, Ajay Nikam, Akash Mule, Rhutuja Mohankar

Guide : DR. MADAGONDA BIRADAR

Nutan College Of Engineering and Research Talegaon Dabhade, Pune.

ABSTRACT There are many hazardous effects of pollutants from the conventional fuel vehicals, so we have to move towards the environment friendly energy sources. We have various types of renewable energy sources, but the Hydrogen as a fuel would be perfect option for energy sources of vehicals. Hydrogen can be produce from domestic sources. Hydrogen is most produced fossils fuel.When it comes to designing of fuel cells, hydrogen storage in vehicles is very important factor. In this article, a recent developments in hydrogen fuel cell engines is reviewed to the feasibility of using hydrogen as a major fuel in the system of transportation. A fuel cell ie an electrochemical device, which can produce electricity by the process of reverse electrolysis. Fuel cells are splits into cation-anion catalyst plate in the reactant to the production of electricity. Fuel cells use reactants, so it is harmless to the environment and produces water as a by-products. Hydrogen is one of the most efficient energy carriers, the fuel cell can produce DC power by which our electric vehicle can run. if we maintain connections in hydrogen fuel cell with batteries and control system with proper strategies, One can make a sustainable hybrid vehicle.

Keywords : Environment Friendly, Fossil Fuel, Hydrogen storage.

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QUANTUM COMPUTING

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ABSTRACT : Quantum computing has emerged as a promising field with the potential to revolutionize various aspects of computation. This review aims to provide a comprehensive overview of the current state of quantum computing

research. The primary question addressed in this review is: What is the current progress and potential applications of quantum computing? The review encompasses a wide range of major studies conducted in the field of quantum computing. It explores the fundamental principles of quantum mechanics that underlie quantum computing, including superposition and entanglement. computing architectures, such as gate Various quantum based quantum computers and adiabatic quantum computers, are discussed, along with their advantages and limitations. The review also examines different quantum algorithms and their applications, includi ng Short's algorithm for factoring large numbers and Grover's algorithm for searching unsorted databases. In conclusion, quantum computing represents a promising frontier in the field of computation, offering unprecedented computational power and the abili ty to tackle problems of significant societal importance. Continued research and development efforts are required to harness the full potential of quantum computing and realize its practical applications in various domains.

Keywords: cryptography Qubit, Quantum interference, Quantum internet, Quantum

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The Evolution of Computers Sudarshan

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Abstract: The evolution of computers has been one of the most transformative journeys in human history. This review paper provides a comprehensive examination of the development of computers from their early beginnings to the present day, shedding light on the major milestones, technological breakthroughs, and their profound implications on society. The paper commences with an exploration of the origins of computers, starting from the mechanical calculators of the 19th century to the emergence of early electronic computers in the mid-20th century. It highlights significant contributions by pioneers such as Charles Babbage, Alan Turing, and John von Neumann, who laid the foundations for the digital computing era. The subsequent sections focus on the revolutionary advancements that have shaped the evolution of computers. This includes the advent of transistors and integrated circuits, leading to the development of smaller, faster, and more powerful computers. The rise of personal computers in the 1970s and 1980s democratized computing, empowering individuals and businesses alike. The review also delves into the progression of computer architectures, the mainframe and minicomputer. Overall, this review paper provides a comprehensive overview of the evolution of computers, capturing the key milestones, technological advancements, and societal implications. It serves as a valuable resource for researchers, educators, and technology enthusiasts seeking to understand the transformative journey of computers.

Keywords- computers, evolution, history, invention

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Data-Science

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Abstract Data science is the study of data to extract meaningful insights for business. It is a multidisciplinary approach that combines principles and practices from the fields of mathematics, statistics, artificial intelligence, and computer engineering to analyze large amounts of data. In this paper, we substantiate our premise that statistics is one of the most important disciplines to provide tools and methods to find structure in and to give deeper insight into data, and the most important discipline to analyze and quantify uncertainty. This paper presents the challenges presented by data and

discusses what differentiates data science from the established sciences, data technologies, and big data. Data Science, one of the most significant advances of this century, refers to an emerging area related to the collection, preparation, analysis, visualization, data privacy, management, and preservation of this data – both structured and unstructured. Our goal is to encourage data related researchers to transfer their focus towards this new science.

Keywords- Advanced analytics, Artificial intelligence, Data privacy, Data science, Intelligent decision-making, Machine learning.

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NeuraLink : Crucial Importance of Electronics in the Field of Engineering

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ABSTRACT This composition consists a literature review of Neuralink, brain machine interfaces (BMIs) and their operations, followed by unborn possibilitie's of BMIs and their potential impacts. Currently, BMIs is dominating by having remedial applications, by helping people with spinal cord injuries and controlling devices with just one thought. However, these technology can also improve learning, detect emotions, and control basic behaviors. By Implanting a chip called N-1 Chip in brain they will offer many possibilities in future. We can even control people devices, Neuralink is merging Human intelligence with artificial intelligence (AI). Neuralink can also lead to wrong human impacts. This paper shows that NeuraLink Technology have high potential to make changes in Human Life but also including hazardous changes. Reinforcing the need to urgently address these critical issues.

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Robotics in Space Exploration

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Robots are the manmade machines which are helping humans to reduce the work load. Nowadays not a single industrial sector is away from the use of robots and machineries, widely used in e- commerce, food, automobile, healthcare, pharmaceutical etc. and also used in space exploration to know the information about outer galaxy. The review paper focuses on the use of robotics in space exploration. NASA has made various robotic devices for developing the human knowledge about outer space. Humanoid robot is one of the device uses by NASA. Also focusing on types of satellite, space rovers, space debris, etc.

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Data Science with Python

Author: - Nikhil Raghuwanshi, Prajwal Ramse, Priya Ram, Prachi Salunke, Rishi Sinha.

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Abstract: - Data science consists of problem definitions, set of principles, algorithm and processes by which we can remove patterns from large data sets which are not in use. The main motive of data science is to improve the decision making by the analysis of data. Data science is also used in data mining and machine learning. In fact, we can use the

term data mining, machine learning in the place of data science. In short it is interchangeable. Machine learning is the design and evolution of algorithms. It is used for extracting patterns from data. Data mining is the process in which we collect raw data and convert it into useful information.[1] So, data science is a combination of all these. It considers other challenges also like cleaning, capturing and transforming of unstructured social media and web data. In another way we can define data science as it is a field which combines different to study large set of data to discover patterns and insights. It involves using computer science, statistical method and predictive analytics to gain useful information from data. To remove the meaningful insights from big data is the goal of using machine learning algorithms and other technologies. There are different stages of data science and how they can be used to enhance project management. The first stage of data science is to capture data which involves obtaining, removing and inputting data into the system. The second stage of data science is the stage where data is cleaned, processed, structured, warehoused and staged.

Keywords: - Statistics, machine learning, data analysis, python, data mining, analytics, SQL.

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The Future of Warfare: A Smart AR/VR AI-Driven Helmet for Real-Time Data Analysis and Tactical Advantage

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Abstract: This study explores the potential of a smart augmented reality (AR) / virtual reality (VR) helmet that uses artificial intelligence (AI) to provide real-time data analysis and decision support for military personnel in combat situations. The helmet integrates various sensors, cameras, and communication devices to collect and process data from the environment and the wearer, and displays relevant information and guidance on a transparent visor. The study aims to evaluate the usability, performance, and impact of the helmet on situational awareness and combat effectiveness of the users. The results show that the helmet can potentially improve the users' perception, comprehension, and projection of the situation, as well as their accuracy, speed, and confidence in decision making. The study concludes that the smart AR/VR AI-driven helmet is a feasible and beneficial technology for enhancing situational awareness and combat effectiveness in military operations. Keywords- Augmented Reality/ Virtual Reality, Artificial intelligence, Machine learning, Real-time data analysis The Future of Warfare: A Smart AR/VR AI-Driven Helmet for Real-Time Data Analysis and Tactical Advantage Atharva, Ashish, Rohit, Venktesh, Sanika Abstract This study explores the potential of a smart augmented reality (AR) / virtual reality (VR) helmet that uses artificial intelligence (AI) to provide real-time data analysis and decision support for military personnel in combat situations. The helmet integrates various sensors, cameras, and communication devices to collect and process data from the environment and the wearer, and displays relevant information and guidance on a transparent visor. The study aims to evaluate the usability, performance, and impact of the helmet on situational awareness and combat effectiveness of the users. The results show that the helmet can potentially improve the users' perception, comprehension, and projection of the situation, as well as their accuracy, speed, and confidence in decision making. The study concludes that the smart AR/VR AI-driven helmet is a feasible and beneficial technology for enhancing situational awareness and combat effectiveness in military operations.

Keywords- Augmented Reality/ Virtual Reality, Artificial intelligence, Machine learning, Real-time data analysis

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Internet of Things & Its Application

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Abstract An interconnected network of computing devices makes up the Internet of things. This covers practically anything you can imagine, such as wearable technology, washing machines, and cell phones. A vast network of interconnected "things" makes up the IoT. The IoT market is expanding quickly in other areas. allowing them to track their overall business operations. Users can remotely control and automate many parts of their homes, such as altering the temperature, turning on/off lights, or receiving alerts about potential security breaches, by connecting appliances, lighting systems, and IoT devices. IoT is essential to healthcare since it allows for remote patient monitoring and facilitates proactive and individualised care. IoT is widely used in industries to improve processes. by linking parking spots and machines. Connectivity contributes to better resource allocation, lower energy use, better traffic flow, and more urban sustainability in general. Increasingly, IoT-based solutions are used in agriculture to increase crop productivity. Sensors placed in fields can provide real-time data on soil moisture, allowing farmers to plan irrigation effectively. Hardware Devices for a remote dashboard, a routing or bridge device, embedded systems, as well as the engineering and maintenance of communities, are among the hardware used in IoT systems. Keywords- IoT, Application of IoT, IoT device

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CHAT-GPT AN AI CHATBOT

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ABSTRACT: Conversational Artificial Intelligence (AI) has witnessed significant advancements in recent times, revolutionizing mortal- machine relations and transubstantiating colourful diligence. This exploration paper introduces Chat GPT, an advanced language model grounded on the GPT-3.5 armature, developed by Open AI. The paper discusses the underpinning armature and training methodology of Chat GPT, which builds upon the success of former duplications while addressing their limitations. The model is pre-trained on a different range of internet textbook, allowing it to acquire a broad knowledge base encompassing colourful disciplines. The armature consists of a multi-layer motor model, enabling it to capture long- range dependences and contextual information effectively. To estimate the performance of Chat GPT, expansive testing is conducted using standard datasets and real- world discussion data. Results demonstrate that Chat GPT achieves notable advancements in generating coherent and contextually applicable responses compared to former models. It exhibits enhanced language understanding, is able of generating further harmonious replies, and showcases a better grasp of nuanced discussion nuances Keywords: Artificial Intelligence, Human machine interaction, Pre - trained, Data sets, Extensive Testing, Language understanding, GPT-3.5 architecture.

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ROLE OF AI IN CYBERSECURITY

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Abstract The increase in the number of cyber crime and attacks on not only private but even large corporational and govt. servers has been of a great concern recently. Because of modern transformation of the organizations it is very important to focus on cybersecurity matters and the ways to improve them. This paper explores the intersection of two of the uprising fields in the domain of Advanced Technologies. AI i.e. Artificial intelligence and cyber security are the modern topics of discussion. AI and Cybersecurity have changed today’s digital landscapes and have opened a whole other world of possibilities and their own consequences. In this paper we are exploring those possibilities and consequences and also applications and advancements of these modern technologies. There are some ways to transform

the risks of these technologies into a positive outcome. We have discussed some ways to tackle these vulnerabilities associated with AI and potent strategies. The fusion of these two different but yet not so separate fields will bring about new advancements, and a way to address the threats.

Keywords- Artificial intelligence, Cybersecurity, Machine Learning Algorithms

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A Review of Application of Complex Number used in Real Life

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ABSTRACT In this paper is simply a review of complex number. The application in real life of complex number has also been shown. Complex numbers are used in applied mathematics, physics.

Keywords- Complex number, Application of complex number real life.

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Rocket Science: The Space Race

Amit Khatal,Pavan Khare,Shivam Khandve,Gayatri Kharat,Rutuja Khandge, Guided by :prof. Vaibhavi Avachat

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Abstract This review paper provides an in-depth exploration of rocket science, focusing on the historical context of the Space Race between the United States and the Soviet Union during the Cold War. It examines the pivotal achievements, advancements, and significant events that shaped this era of intense competition. Furthermore, the paper highlights India's notable contributions to rocket science and space exploration. The future of rocket science is also discussed, shedding light on upcoming technologies and advancements that hold great promise for space exploration and accessibility.

Keywords- Space race, Advancement in rocket propulsion, Space Tourism

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A Review on Hydrogen Fuel Based Vehicles

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Abstract The Sources and References used in the review of the topic talk about the importance of having a sustainable transportation system and explore the idea of using hydrogen and fuel cell vehicles instead of relying on fossil fuels. They say that hydrogen is really good because it has a lot of energy and doesn't release harmful stuff into the air. Fuel cell vehicles are mentioned as a type of vehicle that uses hydrogen and doesn't create any pollution while driving for more than 300 miles. But there are some problems to solve like building enough places to get hydrogen, making it cheaper, and finding better ways to store it. They also compare how these vehicles impact the environment and say that

electric vehicles are the best for the environment. Fuel cell vehicles are good for using energy efficiently. They give examples of how hydrogen vehicles can work in different areas. The success of this kind of transportation depends on making it cheaper, finding better ways to store hydrogen, and improving the technology. It's also important to think about how people and society will accept and use these vehicles. Switching to hydrogen vehicles could help make the environment cleaner, create more jobs, and make the economy better.

Keywords- Sustainable transportation system, Hydrogen and fuel cell vehicles, Environment, Technology

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CYBER SECURITY THREATS TO WATCH OUT

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Guide: Ajit Kashid

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Abstract: In conclusion, cybersecurity is an essential discipline focused on protecting computer systems, networks, and digital information from unauthorized access, data breaches, and other cyber threats. With the ever evolving threat landscape and increasing reliance on technology, cybersecurity measures are crucial to safeguard individuals, organizations, and governments. Implementing a multi-layered approach that combines technical controls, user awareness, incident response plans, and regular security audits is key to maintaining a secure environment. Additionally, the future of cybersecurity will involve advancements in technologies like artificial intelligence, IoT security, and quantum-resistant cryptography, along with greater emphasis on privacy protection and information sharing to effectively combat emerging threats. It is vital to prioritize cybersecurity to protect sensitive data, maintain trust, and ensure the resilience of our digital systems.

Keywords- Cybersecurity , Information security , Network security , Data protection

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Metaverse Unleashed: The Next Frontier of Digital Reality

Authors:- Avishkar Wankhede, Gaurav Wande, Jay Wankhede, Jay Wagh, Pallavi Wagh, Prof. Ankush. S. Patil

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Abstract:- The concept of the metaverse holds great potential and has garnered significant attention in recent years. While it is difficult to predict the exact form it will take or the full extent of its impact. The metaverse aims to merge the virtual and physical worlds, creating a seamless digital environment where people can interact, work, play, and explore. This integration will enable new ways of communication, collaboration, and entertainment. The metaverse will offer highly immersive and interactive experiences, utilizing technologies such as virtual reality (VR), augmented reality (AR), and mixed reality (MR). Users will be able to engage with digital content and interact with others in realistic and engaging ways.

Keywords- Virtual Reality,Argumented Reality,Virtual World,Artificial Intelligence,Blockchain and Digital Assetz

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A REVIEW: INTRUSION DECTECTION SYSTEM BY MACHINE LEARNING

Asmita Bagal, Yugal Bari, Sujal Baviskar, Ranjeet Bayas, Krunal Bhadke, Vaibhavi Avchat Ghardale

Abstract: Internet has become part of our daily life as the popularity of Internet is increasing, it contains detection is major problem concerns to network security and intrusion detection system is device as software application that monitors network as system for malicious activity or violence. This system is approach by various paper learning system. This is review paper with 55 related studies. Their latest achievement and limitations in developing intrusion detection systems by Machine Learning is discussed in these reviews.

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A Review Paper on: Internet of Things

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Abstract:- The Internet of Things (IoT) is a future of technology that enables the interconnection of physical objects and devices through the internet, leading to better way of data sharing, automation, and intelligent decision-making to reduce simple day to day or industrial problems. This review paper aims to provide a comprehensive breakdown of the IoT, covering its definition, architecture, key components, applications, challenges, and future prospects. By examining the current state of IoT and analyzing its potential implications, this review aims to shed light on the significance and impact of this technology in various domains.

Keywords - Structure, challenges, advantages, opportunities

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Review Paper of Integration and Its Uses In Daily Life

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Abstract: Integration is a fundamental concept in mathematics that involves finding the integral of a function. It is a mathematical operation that calculates the area under a curve or the accumulation of quantities over a given interval. Integration has numerous applications in various fields and is widely used in daily life.

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Green Concrete to Reduce Global Carbon Emission from Cement Production

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Abstract Nowadays, the cement industry faces challenges like depleting fossil fuels, scarcity of raw materials, high demands in concrete and cement and climate change. The emissions like CO2 into the atmosphere or 6% of all the manmade carbon emissions are produced by Ordinary Portland Cement OPC). In this regard for sustainable environment, we need to use waste materials which is having cementing properties as Ordinary Portland Cement used in

concrete produces 0.81 tons of CO2 per 1 tons of cement. Waste materials can be added as a replacement of cement in concrete which decreases the consumption of cement and thus result in reduction in carbon emission. This paper provides use of Green Concrete in replacement with Ordinary Portland Cement and thus reducing the harmful emission of carbon for cement production.

Keywords- • Green Concrete • reduce in Carbon emission, • cement production • sustainable environment

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SOLID WASTE MANAGEMENT: A Review

Prasad Kolte,Vrushabh khot, Priyanshu Khati, Sakshi Kolhe, Shrushti, Vaibhavi Avachat

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Abstract Solid Waste are used for different condition .When we throw the waste can be Reduce, Reuse, Recycle and we use strategic .It has been seen that wastes are increasing the population, Education. Level, income, industrialization, urban .A large portion of the waste is used in municipal waste which they create the industrial and household activity they can be use and recycling the waste for the dumping the waste. Now a days India is related to the waste it is mentioning the critical condition to improve the proper waste disposal it can be use the day to day life .which we can see that quality of life . In worlds waste is one of the major problem which we have the handle the condition of the waste and we use the proper manner and utilize the wastes

Keywords- Reduce, Recycle, Reuse, incineration, landfill

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BREAKING THE TABOO: TALKING ABOUT SANITARY PADS A REVIEW

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Abstract: Comfort and absorbency are the main considerations in the design of sanitary pads, which feature layers of soft fabric, an absorbent core, and a leakproof bottom layer. The safety of the materials, including cotton, polymers, and polyethylene, has been tho roughly examined. Pads have changed over time from being made of cotton and rags to becoming disposable, thinner, and more absorbent. Future initiatives include using environmental friendly raw materials, expanding accessibility, and educating women in rem ote regions. The use of banana agro waste in the production of biodegradable pads has shown promise for environmental friendly and economically viable manufacturing that also improves the health of women.

Keywords: Comfort and absorbency, cotton, polymer Introduction: s, polythene, environmental friendly

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An Insight on different plants in Himanchal Pradesh for their Therapeutic Usage (Antibacterial Activity)

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ABSTRACT Medicinal herbs have been used for their therapeutic uses since time immemorial. It is amazing to know that weeds growing on the side of the road can have so many medicinal uses. This project reports digs deeper into the plants spotted in the state of Himachal Pradesh for their antibacterial and other therapeutic properties. Around 40 plants have been collected through text mining approach along with the altitude on which they are found. In the first part of the methodology, it summaries the phytochemical constituents of these plants that may be responsible for these properties.

Keywords Antimicrobial, Medicinal, Pharmaceutic

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Building Intelligent Urban Ecosystems: Unleashing the Power of Smart Cities for Enhanced Livability and Efficiency

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Abstract As the future of Ai is increasing to a greater extent, there are lot of possibilities of growing of smart cities in which a computer will control the major city like Traffic signals, door locks, security system, Bridge control, cameras. But the question is who controls the computer? The answer is the private companies who have all the data which can be entered into computers. The limitations of conventional smart city surveillance systems are highlighted, particularly in terms of streaming video and data, which hinder real time monitoring of risks, threats, and infrastru cture maintenance. Therefore, the need for new solutions that can overcome these limitations is emphasized. Additionally, the rapid pace of technological advancements necessitates a reevaluation and rediscovery of human computer interactions to prioritize Introduction: citizen centric design in smart cities.

Keywords smart city Internet of Things service Technology, artificial intelligence cyber security

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Cyber Security & AI (Artificial Intelligence)

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A B S T R A C T: The huge applications in IOT is greatly leading to tremendous cyber security which is affecting all over the globe. Therefore, to design the proper and precise technologies in a cyber security is a need of an hour. Cyber security aims to reduce the cyber attacks and protect against the unauthorized exploitation of systems, network and technologies. The Artificial Intelligence is more helpful and important in cyber security to build high security and model which will protect system from any cyber-attack. AI has shown a tremendous results in the cyber security by analyzing the data accurately. This paper depicts the AI techniques which is being used in various applications in cyber attack IDS (INTRUSION DETECTION SYSTEM) which is AI powered, can detect suspicious activities and unusual patterns & it raise alerts. The system is allowing for proactive defense against emerging threats. Different intrusion methods have been proposed in the literature to tackle computer security & this is broadly classified into Signature Based Intrusion Detection Systems (SIDS) and Anomaly Based Intrusion Detection Systems

Keywords: Cyber Security Artificial Intelligence Intrusion Detection System Authentication Cyber Crime Research Objective

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ARTIFICIAL INTELLIGENCE: A BOON OR CURSE

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Abstract Artificial Intelligence (AI) has become a revolutionary technology that has had a profound impact on multiple domains. This comprehensive paper offers a thorough examination of AI, delving into its significance for society. It begins by providing a concise historical account of AI and delving into the driving forces behind its evolution. The paper further explores diverse applications of AI, carefully assessing its benefits and drawbacks. In conclusion, it critically analysis the arguments portraying AI as a blessing and a curse, shedding light on the potential advantages and risks that accompany its widespread integration.

Keywords:- Artificial Intelligence , Multiple Domain , Blessing , Curse , Historical Account

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5G WIRELESS TECHNOLOGY

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Abstract: 5G is the fifth generation of wireless technology, designed to address the increasing demands for higher data rates, low latency, massive connectivity, and diverse applications. It operates on a higher frequency spectrum, utilizing advanced antenna systems and innovative network architectures to deliver enhanced performance compared to previous generations. Today demand of high-speed internet is increasing day by day .5G has various extended features like high speed, compared to1G,2G,3G and 4G. This paper provides a brief introduction to the latest 5G wireless technology, its evolution from 1G to 5G advantages and disadvantages.

Keywords- 5G, Wireless Technology, Evolution1G-5G., advantages, disadvantages

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Electric Vehicles: The Upcoming Change.

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Abstract: Because of the issues brought about by the fuel motor on the climate and individuals, the auto business has gone to the electrical controlled vehicle. This report compares the electric vehicle to hybrid and internal combustion engine vehicles and explains how an electric vehicle works. The report discusses some of the electric vehicle's benefits and drawbacks. Likewise, a concise future perspective on the innovation is given. There are few alternative modes of transportation at a time when there is a pressing need to protect our environment, daily vehicle operating costs are skyrocketing, and fuel prices are skyrocketing. Electric vehicles are slow, expensive, and only have a limited range; the solution is an electric vehicle.

Keywords- Electric vehicle, Batteries, Pollution, Environment friendly, Charging, Range extension, Super battery.

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Artificial Intelligence (recent Advances and future directions or healthcare)

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Abstract: Artificial Intelligence (AI) has come forward as a transformative technology with the power to change various aspects of our lives. Considering that the use of AI in this context is in early stage of development, finance, healthcare, transportation and many other fields. This review paper aims to provide a comprehensive overview of AI. We explore the fundamental concepts, methodologies, and applications of AI; researching both it is current state and potential future and developments. Additional we discuss about social impacts, Artificial Intelligence, future of work and potential risks of associated with the rapid adoption of AI technologies.

Keywords- Artificial intelligence, advantages, Components, disadvantages

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Environmental Conservation

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Abstract: Environmental conservation plays a crucial role in ensuring the long-term sustainability of our planet and the well-being of present and future generations[1]. This abstract explores the concept of environmental conservation, its significance, and the various strategies employed to preserve and protect our natural resources. Environmental conservation encompasses a range of practices aimed at minimizing human impact on the environment and preserving the Earth's ecosystems. It involves the protection of biodiversity, the responsible use of natural resources, and the mitigation of pollution and climate change. The primary objective is to maintain the delicate balance between human activities and the natural environment, ensuring that future generations can enjoy the same benefits and services that nature provides. Conservation efforts require a multi-faceted approach involving individuals, communities, governments, and international organizations. Education and awareness play a fundamental role in fostering a sense of responsibility and instilling sustainable practices. By promoting environmental literacy and understanding, individuals are empowered to make informed decisions and take actions that positively impact the environment. Furthermore, effective environmental conservation relies on the development and implementation of policies and regulations at local, national, and international levels. Conservation measures often involve the establishment of protected areas, such as national parks and nature reserves, to safeguard biodiversity and ecosystems.

Keywords- Environment, Conservation, Sustainability, biodiversity, ecosystem

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RC CARS

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Abstract: Remote control cars, often known as radio-controlled cars, are small vehicles that are driven by a remote control. These vehicles are well-liked by hobbyists and enthusiasts because they can simulate the pleasure of operating a real vehicle. They give possibilities for varied preferences and ability levels because they exist in a variety of sizes, designs, and performance capacities. RC cars can be used for off-road driving, on-road racing, or even competitive events. They are propelled by rechargeable batteries or nitro engines. Additionally, they are instructional tools that promote creativity and problem-solving abilities while instructing in mechanics and electronics. In general, RC cars offer a distinctive driving experience and hours of pleasure.

Keywords- radio-controlled cars, rechargeable batteries, remote control.

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Corrosion

Harsh Bhakre, Shantanu Bharate, Nikita Bharambe, Vishakha Bhagat, Gargi Bhangare

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Abstract: The process of decay of metal due to environmental attack is called Corrosion. Corrosion causes major economic losses for any nation. Due to the impact and damage it is responsible for reducing life of equipments it also increases the cost of equipment. There are various types of corrosion having various effects and damages. Corrosion is a natural phenomenon which can be controlled or the effect can be reduced by taking various measures to control or prevent. The paper aims to provide overview of corrosion its types, mechanism, its effects and ways to control, so that proper steps should be taken to minimize the damage or prevent it.

Keywords- Corrosion, Nature, Metal, Mechanism, Protection

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Research Review Paper of Complex Numbers In Real Life

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Abstract: Complex numbers have numerous applications in various fields, including mathematics, physics, engineering, and signal processing. Here are some real-life uses of complex numbers: Complex numbers are extensively used in electrical engineering to analyze and describe AC (alternating current) circuits. They represent voltage and current phasors, which are essential for understanding the behavior of circuits involving inductors and capacitors. Complex numbers play a vital role in control systems engineering. They are used to analyze the stability and performance of feedback control systems. Complex analysis techniques, such as Nyquist plots and Bode plots, help engineers design stable and robust control systems. Complex numbers are the foundation of quantum mechanics, a fundamental theory in physics. Wave functions in quantum mechanics are described using complex numbers, allowing predictions of particle behavior and interactions.

Keywords- Imaginary Unit, Real Part, Imaginary Part, Complex Plane

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RENEWABLE ENERGY RESOURCE

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Abstract: Renewable energy sources are the clean sources of energy. This energy sources are environment friendly and don't produce any type of pollution. Renewable energy sources include solar energy, wind energy, biogas and biomass energy, tidal energy etc. Sun is the source of all energies, primary form of energy from sun is heat and light. In this article we have discussed about different types of renewable energy sources, their advantages, disadvantages, and their efficiency. Unlike other energy sources renewable energy sources are available abundantly.

Keywords- Renewable energy, environment, sun, wind, biomass, biogas.

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Artificial Intelligent and Its Future.

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Abstract: This paper represents a comprehensive survey of Artificial Intelligence and its advantages and usefulness of AI in Future. Artificial Intelligence has emerged as a transformative force in various industries, offering unprecedent opportunities and challenges. This paper explores the current landscape of AI, its potential implications, and its future trajectory. We can notice the advancements in AI technologies, the ethical considerations surrounding its application, and the potential impact on society. By analysis the current state of AI and envisioning its future, we aim to shed light on the remarkable possibilities that lie ahead while addressing the need for responsible AI development.
Keywords- Artificial Intelligent, Advancement, Envisioning, Ethical

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Design Development and Review of Electrical Trainer Kit

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Abstract: The electrical motor, control circuit, sensors etc. are integral part of the machine, process used in industry. The thorough knowledge of the components of electrical circuits is a must for proper operation, innovation and design of machines and processes. The components such as the single phase ac motor, voltage regulator (dimmer) , proximity sensor and photoelectric sensors are now an integral part of the systems used to operate machines and automation of machines and processes. The DC motor, DC motor control drive, limit switch etc. are devices that are used in machine, and processes that run on DC power supply. Another significant part is of temperature measurement and temperature control using a ventilation fan which is also a part of the system designed for training. The detection of rain and subsequent warning system is also incorporated in the trainer kit. The objective of the paper is to carry out the review of the above systems , development of the trainer kit that will help teach student the use of AC motor , its speed control and motor control using the proximity sensor and photo electric sensor. The trainer also incorporates the speed controller for DC motor, limit switch to switch power on/off to DC motor. The trainer includes the temperature measurement and fan control circuit that

will exhibit the use of temperature sensor to control ventilation system. Lastly the rain sensor that triggers a warning signal is also added to the system.

Keywords- Electrical trainer kit, AC motor, DC motor, Proximity sensor , photo-electric sensor

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ChatGPT: Conversational AI Powered by GPT

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Abstract: This paper represents a comprehensive survey of ChatGPT and GPT-4, state-of-the-art large language models (LLM) from the GPT series. Their prospective applications across diverse domains. The key innovations such as large-scale pre-training that captures knowledge across the entire world wide web, instruction fine-tuning and Reinforcement Learning from Human Feedback (RLHF) have played significant roles in enhancing LLMs' adaptability and performance. We performed an in encompassing trend analysis, word cloud representation, and distribution analysis across various application domains. The findings reveal a significant and increasing interest in ChatGPT/GPT-4 research, predominantly centered on direct natural language processing applications, while also demonstrating considerable potential in areas ranging from education and history to mathematics, medicine, and physics. This study aspire to furnish insights into ChatGPT's capabilities, potential implications, ethical concerns, and offer direction for future advancements in this field.

Keywords- ChatGPT, Potential Implication, Ethical Concerns, RLHF

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Study of Optimization Process -Taguchi Method

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Abstract: Optimizing process parameter problems is routinely performed in the manufacturing industry, particularly in setting final optimal process parameters. Final optimal process parameter setting is recognized as one of the most important steps in Manufacturing Process for improving the quality of products. Previously, engineers used trial-and-error processes which depend on the engineers' experience and intuition to determine initial process parameter settings. Subsequently, numerous engineers applied Taguchi's parameter design method to determine the optimal process parameter settings. However, the trial-anderror process is costly and time consuming, thus it is not suitable for complex manufacturing processes. Moreover, Taguchi's parameter design method can only find the best specified process parameter level combination which includes the discrete setting values of process parameters.

Keywords- Process Parameter, Trial and Error, Problem solving technique

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Comprehensive Literature Survey on Retinal Image Analysis for Diabetics-prediction Using Machine learning

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Abstract: Diabetes prediction utilizing retinal image analysis and machine learning approaches has received a lot of interest in recent years. This study provides a detailed review of the literature on achievements and research in this topic. The survey spans investigations with an emphasis on utilizing retinal imaging to predict diabetes and diagnose diabetic retinopathy. Machine learning techniques, including convolutional neural networks (CNNs), have emerged as effective tools for diagnosing diabetic retinopathy and forecasting diabetes risk. The combination of multimodal data, such as retinal scans, patient demographics, clinical records, and genetic information, has shown promise in improving model prediction accuracy. To increase the performance and interpretability of predictive models, many approaches such as machine learning, feature extraction and selection, ensemble learning, transfer learning, and interpretability have been investigated. A comparative study of several methodologies is also offered, demonstrating their efficacy in identifying and segmenting diabetic retinopathy for diabetics prediction. Keywords- Diabetic Retinopathy Prediction, Machine Learning Model, Deep Learning Model.

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Advance Tool Management for Smart Factory

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In production, data acquisition is a key factor in improving availability and reliability of input data and to gaining data-based transparency. Hence, it provides the basis for optimizing the coordination of production such as an improved tool management. Traceability systems enable to increase transparency and provide optimization potentials. Traditionally, traceability systems are used for proof of origin, product authentication, product liability and recalls. But there are more digitally advanced use cases that make use of the generated data of traceability systems actively during production in real-time. Among these are digitally documented work, real-time process monitoring, process interlocking, dynamic process control, process analysis and inventory management [8]. The potential of traceability systems is exploited when it is deployed as data source system enabling continuous data generation through entire production processes. The generated data is the basis for comprehensive process analyses, such as the identification of bottlenecks [9]. Current research is still lacking to show concepts on how to consider the most relevant aspects when implementing traceability systems such as technology alternatives, data acquisition and usage as well as the needed marking strategy covering the entire process that needs to be tracked.

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DESIGN OF EFFECTIVE CONTROLLERS USING PFC SUPER LIFT CONVERTER FOR FED BLDC MOTOR

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Abstract: Basically, the conversion of electrical energy to mechanical energy is nothing but an electrical motor (EM). The force is generated while performing the process of rotation in the electrical motor by the interaction of winding currents and motor's magnetic field. By using motor vehicles, batteries, direct current (DC) sources are powered in EMS and by using inverters, electrical generators and power grid; Alternating Current (AC) sources are powered. Brushed DC motor and Brushless DC (BLDC) motor are the two motor which are used in DC motors. Induction motor and synchronous AC Motor are the two motor which are used in AC motors. Single phase and three phase induction motor are the two types of induction motors. Variable speed drives are the parts of DC motor in EMs. The main intent of speed drives is to get good transient performance, speed with long-term stability and high efficiency. Hence these requirements are classified by the DC motor based on the brushes and commutator. AC motor is more beneficial compared with DC motors. Performance evaluation of non-linear controllers for power converters fed BLDC motor drive operated in Continuous Conduction Mode (CCM) is the main intent of this research work. To operate different conditions Luo Converters and Double Switch Non-Inverting Buck-Boost (DSNIBBC) are analyzed. All these are operated in different conditions by using pseudo continuous coil current fed BLDC motor drive.

Keywords- Continuous Conduction Mode (CCM), Double Switch Non-Inverting Buck-Boost (DSNIBBC), Proportional Double Integral Controller (PDIC)), Classical Non-Linear Controllers, Classical Linear Controllers (CLCs), power factor correction (PFC).

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GREEN COMPUTING: APPROACHES AND ITS IMPLEMENTATIONS – A REVIEW.

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Abstract: In a broader sense, green computing refers to the practices and procedures of designing, manufacturing, using, and disposing of computing resources in an environmentally friendly manner while maintaining overall computing performance. This implies decrease being used of unsafe materials, augmenting yield from the item during its lifetime while limiting energy utilization and furthermore reusability or recyclability and biodegradability of utilized items and squanders. Numerous commercial enterprises are taking steps to lessen the negative environmental impact of their operations. The United Nations Framework Convention on Climate Change (UNFCC) is a treaty on the environment that aims to keep greenhouse gas emissions in the atmosphere stable enough to prevent harmful human interference with the environment. Developing without harming the needs of future generations is sustainable development. That means achieving human development objectives while safeguarding ecosystems and natural resources, which are essential to society. This paper examines a number of significant ongoing studies in the field of green computing and highlights the significance of green computing for sustainable development [6].

Keywords- Sustainable development, Green Computing, Data Centre, Energy efficiency.

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Electric Vehicles : An Overview of Technology, Environmental Impact and Market Trends

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Abstract: Electric vehicles (EVs) have drawn a lot of attention as a potentially effective way to combat climate change and the transportation industry's reliance on fossil fuels. The technology, environmental effects, and market trends of electric vehicles are all thoroughly examined in this overview document. Information from a range of sources, including academic articles, industry reports, and official publications, is synthesised in the study. According to the research, electric vehicles have a number of advantages, including cheaper operating costs, the potential for grid integration, and a reduction in greenhouse gas emissions. For widespread use, however, problems including restricted range, inadequate charging infrastructure, and advancements in battery technology still need to be resolved. This study evaluates important advancements in EV technology, the environmental advantages and difficulties of EV adoption.

Keywords- EVs; conventional HEVs; PHEVs; plug-in hybrid electric vehicle; energy transmission; battery technology; FC; PV; internal EMS; EMS; energy management system

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Investigation of Optimization Machining Parameter for EN19 while using TNMG Insert by Taguchi and ANOVA

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EN19 is high-quality alloy steel with good tensile strength due to acombination of good ductility and shock resistance. EN19 is suitable for applications with very high loading such as engine gear boxes, automotive gears, and parts, Shafts, Towing pins ,Load bearing tie rods ,and Oil & Gas industry applications. The material finds application where strength is a primary consideration.EN19 machining is a challenging task in the manufacturing industry. In this study, the TNMG Carbide insert is used for turning the EN19 material. The input parameters are taken such as spindle speed, feed rate and depth of cut. The output parameters such as Surface roughness, MRR, and Tool Wear were measured .To achieve the optimum results in ANOVA the Taguchi method is used. Experimentally it is observed that, during the Turning of EN19 by TNMG the MRR is maximum at speed 1025 r.p.m, feed 0.10mm/rev, and depth of cut is 1.5 mm. Tool Life is maximum at a speed of 1025 r.p.m, feed 0.25mm/rev while the depth of cut is constant. Surface Roughness is minimum at speed of 455r.p.m., feed 0.25 mm/rev, and depth of cut is 1.5mm.The optimum parameter for EN19 is Speed at 1025 r.p.m, feed is 0.10 (mm/rev) and depth of cut is 1.0 mm for turning operation

Keywords: - TNMG, EN19, ANOVA, Taguchi, Surface roughness, MRR, ToolWear

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Design & Development of Small Wind Turbine.

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The terms wind energy and wind power both describe the process by which the wind is used to generate mechanical power or electricity. This mechanical power can be used for specific tasks (such as grinding grains or pumping water) or a generator can convert this mechanical power into electricity. A wind turbine turns wind energy into electricity using the aerodynamic force from the rotor blades, which work like an airplane wing or helicopter rotor blade. When wind flows across the blade, the air pressure on one side of the blade decreases. The difference in a pressure across the two sides of the blade creates both lift and drag. The force of the lift is stronger than the drag and this causes the rotor to spin. The rotor connects to the generator, either directly (if it is a direct drive turbine) or through a shaft and a series of gears (a gearbox) that speed up the rotation and allow for a physically smaller generator. This translation of aerodynamic force to rotation of a generator creates electricity.

Keywords- Vertical Axis Wind Turbine, Wind, Turbine.

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Personal Finance

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Personal finance plays an important role in people's lives, including managing their income, expenses, savings and investments to achieve financial stability and reach their short- and long-term goals. This course provides an overview of personal finance with an emphasis on the importance of budgeting, debt management, savings strategies and investment considerations. An effective budget is the basis for managing personal finances, enabling people to track income and expenses, prioritize spending, and allocate resources efficiently. Budgeting allows people to understand their finances, identify areas for improvement, and make informed decisions based on their spending habits.

Keywords- Budgeting, Saving, Investing, Debt

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A Review of Tribological Performance of Jatropha Instead of Synthetic Oils Using Journal Bearing Tester

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Journal bearings are crucial components related with the reliable, safe, and environmentally friendly operation of rotating machinery in many applications, e.g., in hydro plants, ships, power generation stations. The maintenance activities in certain cases also have considerable environmental impact. Fortunately, it is relatively easy to reduce the impact by changing the way lubricants are being used. Selecting the proper lubricant is important to sharply reduce long-term costs. The best-fit product selection can mean longer lubricant life, reduced machine wear, reduced incipient power losses and improved safety. A mineral oil, a synthetic oil and a bio-based lubricant are experimentally and analytically examined for several configurations of load and journal rotational velocity. The friction forces and the hydrodynamic friction coefficients are calculated and compared. Rapid depletion of petroleum resources and environmental hazards alarms to use eco-friendly alternative. Jatropha is a non-edible sourced Bio-lubricant shows excellent coefficient of friction, noble anti-wear capability, low environmental emission. The research states that Jatropha have higher viscosity and improves the load carrying capacity.

Keywords- Bio-lubricant Jatropha, journal bearing, load carrying capacity, pressure distribution and viscosity.

Robotics Process Automation (RPA) In Data Cleansing

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This case study examines the implementation of Robotic Process Automation (RPA) for data cleansing to enhance data quality within a large organization. Data cleansing plays a crucial role in ensuring data quality for accurate analysis and decision – making . The study investigates the challenges faced by the organization, the RPA solution employed, and the resulting benefits . This paper explores the various aspects of RPA in data cleansing, including automated data extraction, error detection and correction, duplicate removal, data transformation, and more. The paper also provides insights into the future directions of RPA in data cleansing and its potential impact on organizations.

Studying History with VR

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There are many developments in last few years. VR is one of them. The virtual reality is a computer created environment which appears to be real. The scene and the objects surrounding to the user appears to be real. VR can be used in many fields like healthcare, interior designing, tourism, real estate, architecture, automotive. Now a days many countries are using vr in education examples are China, USA, France, etc. in the fields of research and education these technologies and their development has made a huge impact and it has been helping many people for their progress. In educational syllabus history id one of the important subjects. History is the track/record of the events that has happened in the past. History gives us the tools to analyze and explain problems in the past, it positions us to see patterns that might otherwise be invisible in the present. Though history is important subject in the educational syllabus, In INDIA history is thought in the same old. Due to which the students lose their interest in the subject. Thus their academic performance gets low. If we use VR to explain the concepts of history then not only the students will find it attractive to learn the concepts but also it will boost their memorizing power. This will increase the imagination power of the students and it will help them in future to solve their problem.

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A Study of Fuzzy Logic in Cognitive Sciences

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Abstract: The purpose of this review article, how the fuzzy logic is helpful in various fields regarding solving a problems and benefits for the human health and wealth. These theories include information and knowledge base system in various areas of sciences like as political science, environmental science, chemical science, physical science, medical science, computer science, etc. Fuzzy logic is a powerful problem solving methodology and mathematically, it is superset of Boolean or Crisp logic. The term “fuzzy” refers to the logic involved which can deal with concepts that cannot be expressed as “true” or “false” Fuzzy logic is the basic approach towards the all those software being used for modelling and forecasting. Keywords: Fuzzy set, Fuzzy logic, Fuzzy inference system, Fuzzy logic applications.

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Brave Block: User Authenticator

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A user graphical password authentication system is a method of securing computer system and networks by requiring users to enter a password in the form of an image rather than a text string. The user selects an image and selects a series of points on the image as their password. This password can then be used to authenticate the user and grant them access to the system or network. The use of graphical passwords can make it more difficult for hackers to guess or crack the password, as they would need to both know the image and the specific points selected by the user. It can be a form of multi-factor authentication that adds an additional layer of security to traditional text- based passwords. By requiring users to select an image and a series of points on that image, the system creates a unique password that is much more difficult for hackers to guess or crack. Additionally, the use of an image makes the password more memorable for the user, as they are more likely to remember an image than a random string of characters. This method of authentication is particularly useful for systems or networks that contain sensitive information, as it provides an additional level of security beyond just a text-based password. Furthermore, it can also be used as a way to introduce a form of three-factor authentication where the password is not just a text-based one.

“Home Automation System for Disabled Person”

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Abstract: Smart Home Automation System has wide potential for implementation in 21st Century. Various Home Automation systems are being developed by various researchers worldwide. But most of them has limitations in terms of high cost, efficiency, robustness and flexibility. Seeing the limitations of various other home automation systems, we

propose a Novel Cost Effective cum Efficient home automation system. In this paper, Smart Home Automation system is being proposed via use of PIC Technology utilizing PIC 16F877A microcontroller. The system contains HC-05 Bluetooth sensor for long range and energy efficient wireless communication and the system is fully operational to control various appliances like TV, BULBS, Tube lights, Fans and A.C. This paper shows complete description of various components used and working of all the components integrated with each other. The system also makes use of Android App titled ―Smt Home Control‖ which provides flexible and easy to use GUI for interface. The system is currently the most cost effective and work-efficient as compared to other systems in the market.

Automatic Hand Brake

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Currently, the manufacturing of four-wheelers is experiencing significant growth, with vehicles being used for both commercial and private purposes. With the increase in the number of vehicles on the road, the risk of accidents is also rising. One common type of accident is caused by the negligence of the operator in applying the handbrake, also known as the e-brake or emergency brake. This is particularly true when parking on a sloping surface, such as a hill or an inclined parking slot, as forgetting to apply the handbrake can result in the vehicle moving without the driver and causing an accident. To address this issue, we propose a new system that automatically applies the handbrake when the vehicle is turned off. The system includes an ignition key, limit switches, a DC motor, and an LED. When the key is turned in an anticlockwise direction to turn off the vehicle, the ignition key completes the circuit, causing the DC motor connected to the handbrake lever to start rotating. As the handbrake touches the limit switch, the circuit is broken, causing the DC motor to stop rotating and the handbrake to be automatically applied

Keywords – Automatically handbrake is applied.

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