

Proceedings of

First International Conference

on

Recent Trends in Parallel and Distributed

Processing Techniques

(RTPDP-2021)

on

July 9 - 10, 2021



Organized by

Department of Electronics and Communication Engineering,

Galgotias College of Engineering and Technology (GCET),

Greater Noida, India

1, Knowledge Park-II, Greater Noida,
Uttar Pradesh (India) 201306, Phone No. +91-120-4370000
www.galgotiacollege.edu
www.rtpdp.com

First Impression: 2021

**© Department of Electronics and Communication Engineering,
Galgotias College of Engineering and Technology, Greater Noida,
Uttar Pradesh, India**

Editors

Dr. Lakshmanan. M

Department of Electronics and Communication Engineering,
Galgotias College of Engineering and Technology,
Greater Noida, Uttar Pradesh, India

Dr. D. Jude Hemanth

Department of ECE,
Karunya Institute of Technology and Sciences,
Coimbatore, Tamilnadu, India

Dr. Mohamed Elhosney

College of Computer Information Technology,
American University in the Emirates, UAE

Dr. Tu N Nguyen

Department of Computer Science,
Purdue University Fort Wayne, USA

Disclaimer

No part of this publication may be reproduced or transmitted in any form by any means, electronic or mechanical, including photocopy, recording or any information storage and retrieval system, without permission in writing form the copyright owners.

Advisory Committee

International Advisory Committee

Dr. DUANE SZAFRON, University Of Alberta, Canada
Dr. WILLIAM BISHOP, University Of Waterloo, Canada
Dr. MONCEF GABBOUJ, Tampere University, Finland
Dr. SHANHUI FAN, Stanford University, USA
Dr. VINCENZO PIURI, University Of Milan, Italy
Dr. XIAO-ZHI-GAO, University Of Eastern Finland, Finland
Dr. OLFA KANOUN, Chemnitz University Of Technology, Germany
Dr. FAOUZI DERBEL, Leipzig University Of Applied Sciences, Germany
Dr. AIME LAY-EKUAKILLE, University Of Salento, Italy
Dr. NIRMAL KUMAR SRINIVASAN, Towson University, USA
Dr. S.B GOYAL, University Of Malaysia, Malaysia
Dr. VINAY KUMAR, Technion-Israel Institute Of Technology, Israel
Dr. PRATEEKSHA SHARMA, Technion-Israel Institute Of Technology, Israel
Dr. GHANSHYAM SINGH, University Of Johannesburg, Johannesburg
Dr. CHANDRALEKHA SINGH, University Of Pittsburgh, USA
Dr. SEBASTIAN VENTURA SOTO, Andalusian Institute Of Data Science And Computational Intelligence, Spain
Dr. GOURAV MODANWAL, Case Western Reserve University Cleveland, Ohio, USA
Dr. ALEX NOEL JOSEPHRAJ, Shantou University, China
Dr. UMASHANKAR SUBRAMANIAM, Prince Sultan University, Saudi Arabia
Dr. ARULMURUGAN AMBIKAPATHI, Agency For Science, Technology, And Research, Singapore
Dr. IMED ROMDHANI, Edinburgh Napier University, UK
Dr. SEVIN RATHI, University College London, UK
Dr. RUPENDRA SHARMA, Czech Technical University, Prague
Dr. BRAJENDRA SINGH, Adamson Systems Engineering, Toronto, Canada
Mr. SUMIT MALVIYA Ultra. Electronics – CONTROLS, London, UK
Dr. SUSHEEL SINGH, University Of Copenhagen, USA
Dr. SATISH K. SHARMA, San Diego State University, USA
Dr. MOHAMMAD TABREZ QUASIM, University Of Bisha, Saudi Arabia
Dr. JURI VAIN, Tallinn University Of Technology, Estonia Mr. BALASUBRAMANIAN. A, Bosch, Baden-Wuerttemberg, Germany
Dr. MARIO JOSE DIVAN, National University Of La Pampa, Argentina
Dr. MARCELO MARCISZACK, National Technological University Cordoba, Argentina
Dr. ADRIAN WILL, National Technological University, Argentina

Dr. RAED SHUBAIR, New York University Abu Dhabi, UAE

Dr. PANAGIOTIS KYRATSIS, University Of Western Macedonia, Greece

National Advisory Committee

Dr. D.P. KOTHARI, Ex-Director, IIT, Delhi

Dr. MANIKANDAN NARAYANAN, IIT, Madras

Dr. JUDE HEMANTH, Karunya Institute Of Technology And Sciences, Coimbatore

Dr. NITHYANANNANDAN. L, Pondicherry Engineering College, Puducherry

Dr. KISHORE V KRISHNAN, Ministry Of Electronics And Information, New Delhi

Dr. D. VAITHIYANATHAN, NIT, Delhi

Dr. PRABHU. K, NIT, Surathkal

Dr. JAGADEESH V K., NIT, Patna

Dr. NEELAKANDAN RAJAMOHAN, IIT, Goa

Dr. RAMKUMAR RAJENDRAN, IIT, Bombay

Dr. SHIBAN K KOUL, CARE Lab, IIT, Delhi

Dr. C.J REDDY, IIT Kharagpur

Dr. RAM BILAS PACHORI, IIT, Indore

Dr. KUMAR VAIBHAV SRIVASTAVA, IIT, Kanpur

Dr. JAYANT MUKHARJEE, IIT, Bombay

Dr. ARNAV BHAVSAR, IIT, Mandi

Dr. SUBINDU KUMAR, IIT, Dhanbad

Dr. SANDEEP KUMAR, NIT, Delhi

Dr. SAURABH KUMAR, NIT, Hamirpur

Dr. ANIRBAN BHOWAL, IIT Guwahati

Dr. RAJAT KUMAR SINGH, IIIT, Allahabad

Dr. ASHUTOSH KUMAR SINGH, IIIT, Allahabad

Dr. MANISH GOSWAMI, IIIT, Allahabad

Dr. NEETESH PUROHIT, IIIT, Allahabad

Dr. ASHOK KUMAR, NIT, Hamirpur

Dr. POONAM SINGH, NIT, Jamshedpur

Dr. JAYANTA GHOSH, NIT, Patna

Dr. SHRISH VERMA, NIT, Raipur

Dr. R. N. YADAV, NIT, Bhopal

Dr. J. S. YADAV, NIT, Bhopal

Dr. N. SACHENDRA SINHA, IIT, Roorkee

Dr. P. NAGENDRA PATHAK, IIT, Roorkee

Dr. MANOJ KUMAR MESHRAM, IIT (BHU), Varanasi

Dr. M. SURENDAR, NIT, Puducherry

Dr. VARUN GOPI, NIT, Tiruchirappalli

Dr. SIVARAMAN. J, NIT, Rourkela

Dr. SUDEEP. P.V, NIT, Calicut
 Dr. N. JAYANTHI, DTU, New Delhi
 Dr. GURJIT KAUR, DTU, New Delhi
 Dr. PRIYANKA JAIN, DTU, New Delhi
 Dr. S. MAINUDDIN, JMI, New Delhi
 Dr. B.K. KANAUIYA, JNU, Delhi
 Dr. NOOR MOHAMMED. V, VIT University, Vellore
 Dr. HARIHARAN. S, VIT University, Vellore
 Dr. NAVDEEP GOYAL, Punjabi University, Patiala
 Dr. RAJIV SAXENA, J Aypee University, Anoopshar
 Dr. VIJAY M. WADHAI, D.Y. Patil College Of Engineering, Pune
 Dr. RAGHVENDRA CHAUDHARY, IIT, Dhanbad
 Dr. MADHUR DEO UPADHAYAY, Shiv Nadar University, Greater Noida
 Dr. D R BHASKAR, DTU, New Delhi
 Dr. SIBARAM KHARA, Vice Chancellor, Sharda University, Greater Noida
 Dr. GHANSHYAM SINGH, Malaviya National Institute Of Technology Jaipur
 Dr. SANJAY KUMAR, BIT, Mesra
 Dr. KULBIR SINGH, Thapar University, Patiala
 Dr. MD. IRFANUL HASAN, Graphic Era, Dehradun
 Dr. M.K. DUTTA, AKTU, Lucknow
 Dr. VINEET KANSAL, AKTU, Lucknow
 Dr. ARUNESH KUMAR SINGH, JMI, New Delhi
 Dr. ANKUSH KANSAL, Thapar University, Patiala
 Dr. BHARAT GUPTA, NIT Patna
 Dr. SUDHAKAR CHAUHAN, NIT, Kurukshetra
 Dr. MAHESH CHANDRA, BIT, Mesra
 Dr. RAKESH GOEL, Punjab Technical University, Chandigarh
 Dr. K.M. SONI, Amity University, Noida
 Dr. JITENDRA MISHRA, IIIT, Ranchi
 Dr. MANISH DEV SHARMA, Panjab University, Chandigarh
 Dr. VIVEK DWIVEDI, IIIT, Noida
 Prof. PRAVEEN KUMAR MADURI, GCET, Greater Noida Prof. MOHD ASIM QADRI,
 GCET, Greater Noida
 Prof. VISHNU SHARMA, GCET, Greater Noida
 Prof. S.K. SINGH, GCET, Greater Noida
 Prof. MD. DANISH EQUBAL, GCET, Greater Noida
 Prof. A. AMBIKAPATHY, GCET, Greater Noida
 Prof. RAJIV GARG, GCET, Greater Noida
 Prof. GAGAN TIWARI, GCET, Greater Noida
 Prof. NIRUPA LAKSHMI, GCET, Greater Noida

Prof. RAJESH TRIPATHI, GCET, Greater Noida
Prof. KAKOLI DEY, GCET, Greater Noida

Organizing Committee

Chief Patron:

Shri Suneel Galgotia, Chairman, Galgotias Education Institute, Greater Noida

Shri Dhruv Galgotia, CEO, Galgotias Education Institute, Greater Noida

Patron:

Dr. Vinay Kumar Pathak, Vice Chancellor,

Dr. Abdul Kalam Technical University, Lucknow, India

Conference General Chair:

Dr. Brijesh Singh, Director, GCET.

Convener & Conference Organizing Chair:

Dr. Lakshmanan. M (Prof. & Head, Dept. of ECE Department, GCET)

Conference Chair:

Dr. R. L. Yadava (Prof., Dept. of ECE, GCET)

Conference Coordinators

Prof. Amanpreet Singh Saini (Dept. of ECE, GCET)

Prof. Mohd. Shariff (Dept. of ECE, GCET)

Technical Program Chairs:

Dr. Jaspreet Kaur (Prof., Dept. of ECE, GCET)

Dr. S. P. Singh (Prof., Dept. of ECE, GCET)

Dr. Madan Kumar Sharma (Asso., Prof. Dept. of ECE, GCET)

Dr. Gaurav Saxena (Asso. Prof., Dept. of ECE, GCET)

Dr. Monika Bhatnagar (Asso. Prof., Dept. of ECE, GCET)

Publication Chair:

Prof. Saurabh Katiyar (Dept. of ECE, GCET)

Prof. Ankit Sharma (Dept. of ECE, GCET)

Prof. Amit Gupta (Dept. of ECE, GCET)

Prof. Mohd. Shibly (Dept. of ECE, GCET)

Prof. Satheesh Kumar. R (Dept. of ECE, GCET)

Website Chair:

Prof. Amanpreet Singh Saini (Dept. of ECE, GCET)

Prof. Gaurav Mehra (Dept. of ECE, GCET)

Registration Chair:

Prof. Hitesh Kumar (Dept. of ECE, GCET)

Prof. Bishnu Deo Kumar (Dept. of ECE, GCET)

Reception and Decoration Chair:

Prof. Ruchi Agarwal (Dept. of ECE, GCET)

Prof. Shristi Priya (Dept. of ECE, GCET)

Prof. S. Vaishnavi (Dept. of ECE, GCET)

Publicity Chair:

Prof. Prakash Chandra Joshi (Dept. of ECE, GCET)

Prof. Kuldeep Singh (Dept. of ECE, GCET)

Finance Chair:

Prof. Piyush Jain (Dept. of ECE, GCET)

Prof. Ausaf Hasan Tarique (Dept. of ECE, GCET)

Hospitality Chair:

Prof. Rajiv Kumar Yadav (Dept. of ECE, GCET)

Prof. Ranjana Kumari (Dept. of ECE, GCET)

Prof. Ruchi Tripathi (Dept. of ECE, GCET)

Prof. Rekha Rani (Dept. of ECE, GCET)

Prof. Deependra Sinha (Dept. of ECE, GCET)

Transport and Accommodation Chair:

Prof. Mohd. Shariff (Dept. of ECE, GCET)

Prof. Upendra Kumar Acharya (Dept. of ECE, GCET)

Sponsorship/Media Chair:

Dr. Shahid Eqbal (Dept. of ECE, GCET)

Prof. Atul Kumar (Dept. of ECE, GCET)

Prof. Gavendra Singh (Dept. of ECE, GCET)

Prof. Shivam Gupta (Dept. of ECE, GCET)

MESSAGE



SHRI. SUNEEL GALGOTIA
HON'BLE CHAIRMAN

I am pleased to know that the Department of Electronics and Communication Engineering of Galgotia College of Engineering & Technology is organizing **International Conference on Recent Trends in Parallel and Distributed Processing techniques (RTPDP-2021)** to be held today on 9th & tomorrow 10th July - 2021.

Galgotias College of Engineering & Technology is committed to being an academic partner in the Make in India initiative of the Hon'ble Prime Minister of India. This Conference will help to bring new ideas on the table regarding Computing, Communication Control and Networking and give impetus to the Make in India success story.

The main objective of RTPDP-2021 is to bring together researchers from R&D institutions, universities and industries, to stimulate fruitful exchange and dissemination of information and ideas in the field of Parallel and distributed Processing, Communication, Computing application and Networking.

This Conference will provide opportunities for delegates to exchange innovative ideas and application experiences face to face, to establish business or research relations and to find global partners for future collaboration.

I am very confident that RTPDP-2021 will be a resounding success.

Thank you

Shri. Suneel Galgotia
Chairman,
Galgotias College of Engineering & Technology

MESSAGE



**SHRI. DHRUV GALGOTIA
HON'BLE CEO**

It gives me immense pleasure that Department of Electronics and Communication Engineering of Galgotia College of Engineering & Technology is organizing International Conference on Recent Trends in Parallel and Distributed Processing techniques (RTPDP-2021) to be held on 9th & 10th July - 2021.

This Conference will provide an international forum to the researchers, scientists, industry experts, and scholars to share their novel ideas and research results on the application of human cognition models in various practical computing applications.

I congratulate all participants for their contribution and valuable research in the area of Parallel and distributed Processing, Communication, Computing application and Networking. Through their investment, we would be learning about the challenges in this area and their potential solutions. Ultimately, this new knowledge will lead us to offer new solutions for new generations.

I wish that RTPDP-2021 turns out to be a major success for everyone.

Thank you

**Shri. Dhruv Galgotia
CEO,
Galgotias College of Engineering & Technology**

MESSAGE



Prof. (Dr.) BRIJESH SINGH
CONFERENCE GENERAL CHAIR

It gives me immense pleasure that Department of Electronics and Communication Engineering of Galgotia College of Engineering & Technology is organizing International Conference on **Recent Trends in Parallel and Distributed Processing techniques (RTPDP-2021)** to be held on 9th & 10th July - 2021.

It is a proud moment for us to host this conference. I would like to personally welcome all delegates to RTPDP-2021.

This conference will present current researches being carried out in the areas of Parallel and distributed Processing, Communication, Computing application for scientists, scholars, engineers and students. I hope that, this Conference will play a role of cooperation between academia and industries, and between national and international organisations.

I congratulate Prof.(Dr.) and his team of dedicated faculty who have organised this conference which has received a tremendous response from both academicians and industry professionals. I convey my best wishes for all round success of this conference.

Prof. (Dr.) Brijesh Singh
Director
Galgotias College of Engineering & Technology

MESSAGE



DR. LAKSHMANAN. M
CONVENER & CONFERENCE ORGANIZING CHAIR

It is my immense pleasure to provide the proceedings of the International Conference on “Recent Trends in Parallel and Distributed Processing Techniques”, RTPDP-2021. This conference is in accomplishment of Department of Electronics and Communication Engineering, Galgotias College of Engineering and Technology, Greater Noida, India. We were privileged to have Er. Wong Chang Jong, Huawei Technologies, Singapore as the Chief Guest and Dr. Neelakandan Rajamohan, IIT Goa, Dr. Jude Hemanth, Karunya University, Dr. Sanjay Kumar, BIT Mesra, Mr. Himanshu Mahajan, Huawei India Enterprise Business Department as the Guests of Honor on this special occasion.

RTPDP-2021 covered into major emerging areas which are directly linked to socially useful research areas like Parallel/distributed architectures, Distributed AI and ML, Sensor Networks and IoT, Wireless Networks and Mobile Computing, Cloud computing, Network routing and traffic analysis, Cryptography and Network Security, Software Systems and Technologies, Theory of Parallel / Distributed Processing, Parallel/Distributed Applications, Real-time and Embedded Systems, Parallel/Distributed Algorithms and their applications, FPGA-based Design, Smart Antennas for IoT Applications, ML Based Antenna Design etc. We have received 183 research papers on these areas and after review 88 papers were accepted. These papers were orally presented in different categories of 9 Tracks which are Parallel/Distributed Architectures and applications; Smart Antennas design and its applications; Artificial Intelligence and Machine Learning; Sensors and IOT; Wireless and Mobile Computing; Image Processing and Its Applications; Real Time and Embedded Systems; Automation and Control; Software Tools, Web Based Simulation and Computing. There were 10 Keynote talks delivered

by the eminent speakers of academia and industry from India and abroad. Scientists, technologists, engineers, academicians and researchers from national laboratories, research centres, academic institutions, and industries from different parts of India were gathered on a common platform to interact with one another and shared their research activities in RTPDP-2021.

As the convener of the conference, I extend my gratitude to Shri Suneel Galgotia, Chairman, Shri. Dhruv Galgotia, CEO and Dr. Brijesh Singh, Director for their support. I would like to thank advisory board members, technical program committee, local organizing committee, volunteers and the staff members of the Galgotias College of Engineering and Technology for their dedicated support. Special gratitude is paid here to the IOS Press, Netherlands and IETE, India for the Technical Sponsorship.

Finally, I would like to thank all the authors, volunteers and persons who directly or indirectly contributed to the conference. Without their cooperation and full support, this conference would not have been possible. Special thanks to all the faculty of ECE department for their day- night effort for the success of RTPDP-2021.

**Dr. Lakshmanan,
Convener and Conference Organizing Chair
International Conference on Recent Trends
in Parallel and Distributed Processing
Techniques, RTPDP-2021**

MESSAGE



DR. R. L. YADAVA
CONFERENCE CHAIR

On behalf of the organizing committee, I *take great pride in welcoming all the attendees of the First International Conference on “Recent Trends in Parallel and Distributed Processing Techniques”*, RTPDP-2021 by the Department of Electronics and Communication Engineering, Galgotias College of Engineering and Technology, Greater Noida, India. The conference intends to bring together scientists, engineers and practitioners from different disciplines to discuss concerns related to Parallel and Distributed Processing Techniques. I take this opportunity to welcome all the delegates of the conference. It is great honour to all of us to have Er. Wong Chang Jong, Huawei Technologies, Singapore as the Chief Guest and Dr. Neelakandan Rajamohan, IIT Goa, Dr. Jude Hemanth, Karunya University, Dr. Sanjay Kumar, BIT Mesra, Mr. Himanshu Mahajan, Huawei India Enterprise Business Department as the Guests of Honour on this precious occasion.

On behalf of whole RTPDP-2021 team, I would like to thank all the authors, session chairs, sponsors and keynote speakers for their support and co-operation. The rapid development in technologies and changes in lifestyle impose various issues in many countries. This conference has been crafted to challenge the hurdles and we are fortunate to have leading speakers from India and abroad to share their experience and perspectives to achieve smart solutions through their innovation. I hope that the conference serves as a locus for interdisciplinary, a space for discourse and collaboration.

I would like to express my appreciation to the organizing committee for their dedicated efforts to materialize the conference. I hope all the participants would have a fruitful and beneficial experience. Finally, I congratulate organizing team, student representatives and participants for their efforts in organizing and participating in this conference, and wish the RTPDP-2021 all the success.

Dr. R. L. Yadava
Conference Organizing Chair
International Conference on Recent Trends
in Parallel and Distributed Processing
Techniques, RTPDP-2021

Contents

Advisory Committee	iii
Organising Committee	vii

Papers

1. Distributed Systems Design Issues, Challenges And Weaknesses: A Review	1
Sashi Tarun, Ranbir Singh Batth, Sukhpreet Kaur	
2. Real-Time Object Detection Using YOLO	1
Sandhya Katiyar, Aarzoo Agrawal Anshi Garg, Anukrati Rajvanshi	
3. A Smart Helping Hand for Visually Impaired People	1
Deepak S, Janardhan Guptha S, Bagubali, Kishore V Krishan	
4. ULTRASONIC NAVIGATION FOR THE BLIND WITH GPS ENABLED	2
Abhishek Singha, Aayush Kumar Agarwal, Deepanshu Chandra, Upasana Sharma	
5. Dual Band Circularly Polarized SRR inspired MIMO antenna for 5G applications	2
Ankit Sharma, Sneha Prasad, Sourav Mishra, Rohan Pathak, Madan Kumar Sharma	
6. Performance of NOMA for 5G Radio Access	3
Upasana Sharma, Dr. Pankaj Singh, Dr. Meenakshi Awasthi	
7. Data Clustering Algorithms for Uncertain Data for Distributed Peer to Peer Networks	3
Divyanka, Shailender Kumar	
8. Personality Prediction System Using Machine Learning Algorithm	3
Adarsh Ankur, Sumit Bhardwaj	
9. Image Classification Using Saliency Pixels With Deep Convolutional Network	4
Amit, Manish Sharma, Gulshan Dhasmana	
10. Weapon Detection Using Transfer Learning	4
Mridul Gupta , Nikhil Banka , Sparsh Narang, Dharmendra Kumar Upadhyay	
11. Alzheimer Disease Detection Using Machine Learning	4
Tarun Kaushik, Manthan Bisht, Sumit Bhardwaj	
12. Design And Analysis Of Wideband Metamaterial Absorber For EMI and RCS Reduction	5
Karanveer Singh, Kartavya Yadav, Mayank Chauhan, Nishant Malik	
13. Real Time Evaluation of ARM Condition	5
Sumit Bhardwaj, Bhuvudha Singh Tomar	
14. Trust Model In Cloud Computing: A Review	6
Shweta Kaushik, Charu Gandhi	
15. A Review On Modeling And Controller Design Of Wind Energy	6

Conversion System Kriti, Sawan Singh, Prakhar Gaur, Pratik Kumar	
16. Unusual Event Detection Sumit Kumar, Gaurav Sarthak Chaha	6
17. Solar Photovoltaic System With Iot Ashutosh Dhar Dubey , Meenakshi Awasthi	7
18. Physical Layer Network Coding with Spatial Modulation Full-Duplex Outage Probability Vedant Malpani, , Shivam Khandelwal, Prathamesh Phutane, Rajesh R, A Bagubali	7
19. IEC 61850 Station Bus Based Digital Substation N. V. Haritha , Brian Samuel Alfred, Sindhuja Vijayaraghavan, Jose Anand	8
20. Research On Face Recognition System Based On Attendance Management Rahul Yadav, Shubham Sharma, Shivansh Shahi, Srinivasan Sriramulu	8
21. Iot Waste Clearance Machine For Smart Cities Subodh Kumar, Shristi Kiran, Padmanabhan P, Afridi Akhlaq	9
22. Emotion Based Music Player Using Haar Cascade Algorithm Md Shahab Uddin Ansari, Ayush Raj, Rohan Gupta, Dr. T. Poongodi, Dr. Shraddha Sagar	9
23. Automate Identification Of Semantics Error For Enabling Errorless Proof Reading Nivedita Mandal, Aditya Anand, Yash Garg, Nikita Kumari	9
24. Prevention Of Cheating In Exam Deepanshu Srivastava, Lakshyatyagi, Vikas Kumar, Indu Malik, Prashant Johri	10
25. Facial Expression and Emotion Detection Recognition Lav Sharma, Vivek Kumara, Sahil Pervej Ansari	10
26. Comprehensive Survey On Edge Computing And Its Architecture Priya Singh, Mukul Aggarwal, Neha Yadav	11
27. A Novel Approach Video Call Using Web RTC Zeeshan Nafees , Bibhas Kumar Rana, Anurag Singh,	11
28. Real Time Chat Application Nikhil Jaiswal ,Shivalika Kamboj, Suryansh Gupta	12
29. Classification of Diabetic Retinopathy Using Fundus Images through Knowledge Transfer Method in Deep Learning Ebin PM, P Ranjana	12
30. GSM Based Gas Leakage Perceptive Polymorphic Communication Punit Srivastava,Priyanshi Shrivastav, Ramesht Chaturvedi, R.L. Yadava	13
31. Attendance Monitoring Using Facial Recognition Abhishek Hegde, Akshay Kumar, H. R Adithya Aras, Kotha Amar, Dr. Chandrakala B.M.	13

32. A Compact Hexagonal-Slot Frequency Reconfigurable MIMO Antenna For Wireless Applications	13
Ranjana Kumari [*] , Nidhi Brhmarishi, Shweta Singh, Rudresh Pradhan, V.K. Tomar	
33. Contextual Knowledge Representation For Interoperability In Internet Of Things	14
S. Prakash, T. Poongodi	
34. Chirographic Digit Recognizer Using Machine Learning	14
Aayush Srivastava, Rohit Yadav, Rishi Mathur ^a , Jayakumar Vaithiyashankar	
35. Web-Based Simulation For Collaboration Between Startup, Entrepreneurs And Investors	15
M.S. Chandramouli, K. Sridharan, M. Chandu Srinivas, H. Abinеш, P. Rishi Kesavan	
36. Driver Drowsiness Detection Using Image Analysis	15
Prathmesh Rustagi, Nikhil Mishra, Aditya	
37. Comparative Review Of Optical Routers	16
Anand V. Sutar, Shilpa Gaikwad	
38. License Plate Detection System	16
Praveen Kumar Maduri, Aman Gupta, Eeshaan Dutt,	
39. University Attendance System Using Face Recognition	16
Subhangi Pandey, Subodh Kumar Pandey, Deepanshu Kumar, Sreenarayanannm	
40. The Role Of Hybrid Models In Skin Lesion Detection: A Study	17
Kumud Dixit, Prashant Johri, R L Yadava, Sanjaeev K Prasad	
41. Malware Classification Using Dynamic Analysis And Advanced Feature Engineering	17
Vivekanand Kuriyal And Dibyahash Bordoloi	
42. Precision Irrigation Using Wireless Network	18
Praveen Kumar Maduri, Faiq Jamil, Abhinav Singh, Juveria hussain, Abhinav Singh Patel, Chintakindi Sanjay Rameshwar, Kushagra Singh	
43. Analysis Of Agricultural Parameters Using Machine Learning For Medicinal Plants	18
Praveen Kumar Maduri, Rishabh Srivastava, Riya Singh ^a , Preeti Dhiman, Kushagra Singhq	
44. Automatic Medical Oxygen Generator	19
Praveen Kumar Maduri, Yashi Mishra, Mehul Yadav, Isha Ararwal, Chintakindi Sanjay Rameshwar, Kushagra Singh	
45. Design And Implementation Of 16-Bit RISC Processor Based On Pipelining Technique Using Verilog HDL	19
Avanish Pratap Singh, Ashutosh Rajput, Amrit Prakash, Amit Gupta	
46. Crime Analytics Using Dynamic Dashboard	19
Atin Verma, Ashutosh Kumar Singh, Vishesh Tripathi, A. Daniel	
47. Suicide Prediction In Social Media Users Using Machine Learning	20
Aviral Chanchal, Anandhan K Ajay Shanker Singh	

48. A Survey On Augmented Reality	20
Tushar Jaiswal, Amjad Ali Khan, Vaibhav Maheshwari, S. Prakash	
49. Threat Detection Rope Roaming Human Safety Robot	20
Praveen Kumar Maduri, Priyanka Sharma, Himanshu Saini, Sakshi Singh, Pradyuman Mani Tripathi	
50. Method For Edible Oil Quality Analysis	21
Praveen Kumar Maduri, Avinash Kaushal, Gunjan Kumari, Abhishek Kumar	
51. Real-Time Medical Liquid Drip Monitoring And Controlling System	21
Praveen Kumar Maduri, Mohd. Alamgir Khan, Rajesh Yadav	
52. Driver's Fatigue Detection Using Python	22
Saumyata Sing, Himanshu Chaudhary, Devansh Sachan, Subhash C. Gupta	
53. An Enhanced Real-Time Chat Application Using Firebase Framework	22
Pratham Mittal, Kartik Garg, Sumit Dixit, N. Suresh Kumar	
54. Machine Learning Algorithm Based Price Forecasting Of A Product Incorporating Sustainability Factors	23
Swasti Singhal, Laxmi Ahuja, Himanshu Monga	
55. Smog Treatment Filter	23
Praveen Kumar Maduri, Preeti Dhiman, Chinmay Chaturvedi, Abhishek Rai	
56. Twitter Sentiment Analysis Using Machine Learning	23
Syed Md Arbaz, Mohammad Danish, Saurabh Kumar Srivastava	
57. Approximation And Analysis Of FIR Multiband Pass Integrator	24
Sumit Bhardwaj, R. L. Yadava, Ashwni Kumar	
58. Normal And Abnormal Fetal Brain Image Classification Using Convolution Neural Network	24
S.P.Gayathri, S.Vijayalakshmi, R. Siva Shankar, P. Durgadevi	
59. Fetal Brain Localization, Segmentation And Anomalies Detection Through Random Forest Classifier	25
S. Vijayalakshmi, P. Durgadevi, A.S.Mohammed Shariff, S.P.Gayathri	
60. Electric Hazards Analysis: A Review	25
Abhinav Saxena, Nirmal Kumar Agarwal, Amit Kumar Sharma, Archit Kumar, Arpit Singh, Arpit Yadav, Arun Kumar	
61. Image Enhancement Using Different Filters For Remotely Sensed Data	26
Janarthanan. S, Ganesh Kumar. T ^A , S. Vijayalakshmi ^b	
62. Aspect Category Analysis On Sentiments Via Machine Learning	26
Himani Mittal, Arpita Gupta, Anshu Gupta	
63. Safeguarding Anonymity Of Web Users Identity Using Login Key	26
Himani Mittal, Himanshu Tripathi, Shivansh Shrish Tripathi	
64. A New Substrate Integrated Waveguide Leaky-Wave Antenna Based On CRLH	27
Rishabh Prabhat Saxena , Saksham Omer, Rishabh Dwivedee, Sakshi Mittal, Ruchi Agarwa	

65. Chat-Bot Implementation Using Natural Language Processing And Finite State Machine	27
Noor Mohammed V, Priyanka Lalwani, Shivam Mehta	
66. Performance Evaluation Of Selection Combiner Under Different Fading Conditions - A Review	28
Abhishek Semwal, Rinky, Mohammad Irfanul Hasan	
67. Design And Analysis Of SIW Based MIMO Antenna For 5G Application	28
Amanpreet Singh Saini, Sangharsha Singh Kushwaha, Saurav Sharma, Shubham Kumar Barnwal, Shubham Singh	
68. UWB Compact Wearable Orthogonal MIMO Antenna With High Isolation	28
Amanpreet Singh Saini, Ankit Sharma, Nikita Chauhan, Vanshika Gupta, Vaibhav Singh	
69. Twitter Sentiment Analysis	29
Jaspreet Kaur, Sonam Priya, Rahil Khan, Ritik Singh	
70. Real Time Virtual Human Hand Tracking For Robotic Assisted Surgery Using Tele Operation For Pandemic	29
R. Satheesh Kumar , R. Arivoli	
71. FSO System Performance Under Different Atmospheric Conditions	29
Mohd Shoaib, Mohd Munis, Harsh Tyagi, Rajneesh Kumar Singh, Atul Kumar	
72. House Price Prediction Using Machine Learning	30
Akash Singh, Ujjiwal Chand, Sheelendra Kumar, Suman Devi	
73. Performance Analysis Of A Tunable Terahertz Antenna Using Different Geometry For IOT Applications	30
Yash Dwivedi, Aditya Upadhyay, Anuj Kumar Gangwar, Ashish Nigam, Rajiv Kumar Yadav, Saurabh Katiyar, R S Yaduvanshi	
74. Virtual Desktop Voice Assistant	31
A.Daniel, Muskan, Monish Verma, Naman Raj Sharma	
75. A Regression Analysis Of Stock Market Prediction Using Machine Learning Algorithms	31
A.S Mohammed Shariff, Niraj Shukla, Subham Sanoriya, Narendra Yadav, Sudhakar Mourya	
76. Body Function Module Of Power Window Electronic Control Unit	31
A S Mohammed Shariff ¹ , Vaibhavi Bharadwaj ^a , Pawani Upadhyay ^a , Tanushree Singh ^a , Mohit Kumar ^a	
77. Virtual Background For Video Conference Using Deep Lab Model	32
Kancharla Ramkumar P. Ramesh Kumar	
78. Comparative Study Of Vedic Multiplier Using Different Adders	32
Amit Gupta, Ranjeet Soni, Syed Nuruddin Ashraf, Raj Vijay Singh Narolia	

Distributed Systems Design Issues, Challenges and Weaknesses: A Review

SASHI TARUN^{A,1}, RANBIR SINGH BATTH^a, SUKHPREET KAUR^b

^a*Lovely Professional University, Punjab, India*

^b*Chandigarh Engineering College, Chandigarh, India*

Abstract. It has now become simple to build or operate on large distributed systems due to the continuous advancement of connectivity technologies, network software, high computing components, and storage space. Good system designs pave a lot for end-users and allow them to operate with high data reliability, availability, and accuracy in a diverse environment. But now, in the technical architecture of a distributed structure, several small but important bottlenecks influence workforce performance. For better scope, it is necessary to put more stress on some of the vulnerabilities that stop distributed systems from detracting their efficiency. This paper stresses some of the issues, challenges, and weakness of the distributed system and brought into knowledge the need for system tuning to build a robust system.

Real-Time Object Detection Using YOLO

SANDHYA KATIYAR^a, AARZOO AGRAWAL^a, ANSHI GARG^a, ANUKRATI RAJVANSHI^{a,1}

^a*Galgotias College of Engineering and Technology, Greater Noida, India*

Abstract — Computer vision techniques have been used in every field nowadays and find a wide range of applications in the agriculture field too due to their fast response and high accuracy. It finds its application in self-driving cars, the camera of mobile phones, detection of faces [14], Maritime Object Detection [13], and other applications. One of the most popular techniques in computer vision is real-time object detection, it is easier in humans but for machines difference between main objects and other objects has to be trained [15]. In this paper deep learning is used for detecting and identifying crops using YOLO (You Only Look Once) approach. For detection and recognition of crops, effective training needs to be carried out. The prime reason for using the YOLO algorithm is that it looks at the image completely by outlining the bounding regions of objects to be detected.

A Smart Helping Hand for Visually Impaired People

DEEPAK S^a, JANARDHAN GUPTHA S^a, BAGUBALI^a, KISHORE V KRISHAN^b

^a*Vellore Institute of Technology, Vellore, Tamil Nadu, India.*

^b*Ministry of Electronics and Information technology Engineering, New Delhi, India*

Abstract. For helping visually challenged persons, a method/study has been implemented to help the people for walking more confidently. In the world, approximately 37 million people cannot see, which was told by the survey made World Health Organization. These visually impaired people are looking for help from the common people. The investigation theorizes a savvy strolling stick that cautions outwardly debilitated individuals over deterrents and water in front could help them in strolling with less mishap. In this framework, an ultrasonic sensor, water sensor, signal, Arduino UNO, and battery are utilized. The ultrasonic sensor, GPS module, water sensor are utilized with the assistance of

Arduino UNO. The main objective of the gadget is to make an advantageous and safe strategy for the oblivious in regards to conquering their objections in daily life. To indicate an obstacle, we include a voice playback which helps the visually impaired to know where the obstacle is located. We are also including a receiver and a buzzer which are located on the smart stick where it will be a great help to the visually impaired to get the smart walking stick when missed using the buzzer sound produced by pressing a switch on the remote by a visually challenged person. As to know where the blind person is going or is he going to the right destination, we have interfaced a GPS module to the smart stick which helps to locate the person.

ULTRASONIC NAVIGATION FOR THE BLIND WITH GPS ENABLED

ABHISHEK SINGH^{a,1}, AAYUSH KUMAR AGARWAL^a, DEEPANSHU CHANDRA^a, UPASANASHARMA^a
^aABES Engineering College(AKTU), Ghaziabad, India

Abstract. In the existing system, the blind persons are guided by a simple stick that hits the ground as they walk. If there is water in front of the person, it cannot be detected by the tap alone and the person steps on the water and, may slip and fall. An innovative blind stick is proposed in this paper, which is capable of navigating a blind person in a pleasant way so that the blind person can stroll independently without getting assistance from others. The proposed stick has been made for blind people, that ultimate objective has to detect hindrances with the use of ultrasonic and water sensors. GPS and GSM module helps them to navigate and reach on their destination and also gives information to his guardian where the blind person is located.

Dual Band Circularly Polarized SRR inspired MIMO antenna for 5G applications

ANKIT SHARMA^{a,1}, SNEHA PRASAD^a, SOURAV MISHRA^a, ROHAN PATHAK^a, MADAN KUMAR SHARMA^a
^aGalgotias College of Engineering and Technology, Greater Noida, India.

Abstract –A wideband circularly polarised (CP) multiple input multiple output (MIMO) antenna for C-band and 5G operations is proposed in this work. The designed structure top side comprises of a microstrip feed line joined with rhombus shape split ring resonator. The back portion of antenna includes defective ground structure with two circular shape SRRs. Because of the presence of SRRs a wideband response is obtained and the antenna exhibits the characteristics of linear and circular polarization in the band. The simulated results show impedance bandwidth of 58.6% (3.3 to 6 GHz) and 13.6% (6.8 to 7.8 GHz). For both the frequency bands, isolation is above 15 dB. Further, the proposed antenna shows axial ratio below 3-dB in the frequency that ranges from 3.9 to 4.1 GHz and 6.8 to 7 GHz. The proposed antenna is miniaturized in size and dimension of the proposed design is $0.23\lambda \times 0.51\lambda \times 0.017\lambda$ (λ is the minimum resonating frequency). The compact proposed antenna shows significant impedance bandwidth with stable gain and no extra decoupling structures are needed to improve isolation of the antenna.

Performance of NOMA for 5G Radio Access

UPASANA SHARMA^{a,1}, Dr. PANKAJ SINGH^a, Dr. MEENAKSHI AWASTHI^b

^a*SRMIST Delhi-NCR Campus, Modinagar, Ghaziabad, India*

^b*AKGEC, Ghaziabad, India*

Abstract. This paper presents our investigations for non-orthogonal multiple access (NOMA) theme for long-term radio access of 5th generation communication. We will discuss an optimization for network's capacity in the constraints of fairness after providing principles for the NOMA for each downlink communication channel and uplink communication channel., we will look at the effects of imperfect receivers based upon the NOMA performance. Consequently, we will discuss the spectral efficiency for NOMA networks, as well as its relationship to energy efficiency. We will also show the networks using NOMA do better than other multiple access techniques.

Data Clustering Algorithms for Uncertain Data for Distributed Peer to Peer Networks

Divyanka^{a,1}, Shailender Kumar ^a

^a*Delhi Technological University, Delhi, India*

Abstract. Data clustering is an important research area in networks and data mining especially where data is uncertain in large datasets. Many algorithms brought together, clustering calculations are reached out by characterizing new distance or closeness estimations to handle this issue. With the quick advancement of organization applications, these concentrated techniques show their restrictions in directing data clustering in huge and dispersed organization because of the protection and security concerns or the specialized requirements brought by distributive conditions. In this paper, a review is done for data clustering algorithms currently existing. It is found that mainly clustering methods applied are k means and its variants with small modifications. To abbreviate the execution time, the decrease procedure is then applied to change the proposed strategy into its deterministic structure by supplanting each uncertain data object with its normal centroid.

Personality Prediction System Using Machine Learning Algorithm

ADARSH ANKUR^{a,1}, SUMIT BHARDWAJ^a

^a*Amity School of Engineering and Technology, Amity University, Noida, India*

Abstract. This paper presents machine learning based algorithms and advanced level of data mining techniques for mining user data characteristics and then learn from patterns. This paper covers areas having access to large number of personal behavioral type data. These data may help to segregate people using Automated Prediction and Classification of Personalities. There are few areas having access to large amounts of personal behavioral data. This data then helps to segregate people using classification based on automated personality.

Image Classification Using Saliency Pixels with Deep Convolutional Network

AMIT ^{a,1}, MANISH SHARMA ^a and GULSHAN DHASMANA ^a

^a *Graphic Era deemed to be university, Dehradun, Uttarakhand, India*

Abstract. This paper proposes a method of image classification with the help of saliency pixel of different images in our case, we have taken an example of dog and cat to classify them, we firstly create saliency map of the image to get the unique pixels of each images with the help of these features we can detect or classify the objects in the image without even focusing on the background of the image to ignore the irrelevant data(noise or the data which is not necessary for the detection of the main object in the image), the data in the background or the noise can affect the efficiency of the model in terms of detection of the object in the image more accurately, so our main focus in this paper is to get the more accuracy in classifying the object in the image by removing the irrelevant data with the help of saliency images and our detection works on the saliency image pixels(pixels which defines only the important objects in the image by ignoring the background data pixels)with the help of a deep neural network and having more accuracy than the methods using only a simple image rather than saliency pixel image. We use a Deep Convolutional network model in which the input is given as the saliency pixel image created with the help of auto-Keras to get more accuracy.

Weapon Detection using Transfer Learning

MRIDUL GUPTA^a, NIKHIL BANKA^b, SPARSH NARANG^b, DHARMENDRA KUMAR UPADHYAY^b

^a*Graphic Era Deemed to be University, Dehradun, Uttarakhand-248002, India*

^b*Netaji Subhas University of Technology, Sector-03, Dwarka, Delhi-110078, India*

Abstract. In today's world, the biggest threat to mankind is that of terrorism and governments all around the globe are facing hardships to cater to this menace. With the advancement of the internet and technology, there has been a rapid increase in the terrorist activities which includes cross border infiltration, bomb blasts, cyber-attacks and even public shooting. In public places, shooting has been identified as the biggest safety threat and can lead to catastrophic effects. In this paper, the focus is on automated detection in such situations. The proposed model uses Convolutional Neural Network (CNN) which is implemented with the concept of transfer learning. Inception-v3 Network has been used for image classification. CNN trains the model on given data sets so that the model learns about firearms and Inception-v3 Network helps in better training. Therefore, if any dangerous object gets detected in the closed-circuit television systems (CCTV) footage, it notifies the person monitoring it. This will help governments save a lot of human effort and money.

Alzheimer Disease Detection Using Machine Learning

TARUN KAUSHIK^{a,1}, MANTHAN BISHT^a, SUMIT BHARDWAJ^a

^a*Amity School of Engineering and Technology, Amity University, Noida, India*

Abstract: Alzheimer's is a very deadly irreversible disease. It's an incurable neurodegenerative disease. It usually starts with a slow pace but gradually become bad as time passes by. Dementia is considered to be the main symptoms linked with it, around sixty to seventy percent diagnosis of dementia are caused by Alzheimer's. It often starts of as difficulty in remembering the day-to-day happenings. With the gradual advance of Alzheimer other sign comes into light such as language difficulty, disarray, lack of enthusiasm, lack in care of own-self and other behavioral problems. Patients start to withdraw from loved ones, friends and society as the disease becomes more prevalent. By the end patient start to lose bodily functions which finally ends up with death. The speed of progression of disease varies for each patient. People with Alzheimer live up to three to nine years after diagnosis. Early diagnosis of the disease can be very helpful in slowing the progression of the disease. The current doctor's diagnosis focuses on documentation of the mental decline. In this paper we will focus on making a platform to detect the disease using the SAGE test and CNN on a GUI.

Design and Analysis of Wideband Metamaterial Absorber for EMI and RCS Reduction

KARANVEER SINGH^{a,1}, KARTAVYA YADAV^a, MAYANK CHAUHAN^a, NISHANT MALIK^a
^aGalgotias College of Engineering & Technology, Greater Noida, India

Abstract A Wideband Metamaterial Absorber (MA) for RCS reduction is presented in this paper. With technology increasing rapidly, Radar cross-section (RCS) has received a lot of attention in different applications. Wideband metamaterial absorber can be used for RCS reduction stealth mode of an airplane, satellite communication, and various defense applications. The proposed MA has a bandwidth of 6.54GHz absorbing the incident wave ranging from 22.2GHz to 28.74GHz. The results of the designed MA have been verified from the previously reported MA and it was found that the designed MA is finer than the previously reported MA in terms of percentage bandwidth.

REAL TIME EVALUATION OF ARM CONDITION

SUMIT BHARDWAJ^{a,1}, BHUVIDHA SINGH TOMAR^a
^aAmity School of Engineering and Technology, Amity University, Noida, India

Abstract: Along with its multiple benefits advancements in technology, brings the serious problem of a sedentary lifestyle. This lack of physical activity is a leading cause of arm immobility in younger adults as well as adults. Musculoskeletal disorders contribute as a leading cause of this dysfunction. Arm immobility has serious impacts on a person's social, mental and physical well-being. Early diagnosis of these conditions via effective joint monitoring can be a breakthrough in diagnostic medicine. The model is aimed to determine the condition of the human arm. Based on its category, all human joints follow a specific range of motion (ROM), when in a healthy state. This range of motion can be used to predict the health of that particular joint. The idea is to develop a smart joint monitoring system, which can be used to identify and monitor various joint conditions in the human arm in real-time through object and motion detection algorithms. A low-cost setup has been created, using a web camera to analyse the condition of the three different joints in the human arm. The focus is to self-diagnose and monitor lifestyle-related joint dysfunctions of the human arm.

Trust Model in Cloud Computing: A Review

SHWETA KAUSHIK^{a,1} and CHARU GANDHI^b

^a ABES Engineering College, Ghaziabad

^b IIIT, Noida Sec. -128, INDIA

Abstract. The recent advancement and research in cloud computing attracting the attention of various researchers and academicians. The use of cloud computing provides users with a range of computing data or services opportunities. This advancement also increases the security concern related to data confidentiality and trust preservation amongst different parties, which is mostly not considered by cloud computing developers. Security of data and maintenance of user trust needs special attention for maintaining the cloud environment reputation and its adoption by both then individuals and enterprises as well. A major issue that needs much more attention above all is trust management between different communicating parties. In this paper, we present a review based on cloud computing trust & security of data requirements under cloud environment. We are also describing what trust is and how it can be used in the various distributed system. A critical review on the various trust models applied in cloud system has been done which investigate the issues related to trust, capability and its heterogeneity support, etc.

A Review on Modeling and Controller Design of Wind Energy Conversion System

KRITI^{a,1}, SAWAN SINGH^a, PRAKHAR GAUR^a, PRATIK KUMAR^a

^aGalgotias College of Engineering and Technology, Greater Noida, India

Abstract. Motive of this review paper is to solve fundamental problem of the wind energy system that is to take out the maximum output power in wide range of free wind speed and also non linearity of the system. There are various control technologies present but the most efficient control technique is applied to limit power of wind turbine to the rated power. WECS is a nonlinear system with many complexities; to overcome these complexities and to make system more efficient rotor speed control technique is implemented. The concept of fuzzy logic controller and PID controller were applied to control the blade pitch angle so that we can control the rotor speed of WECS.

Unusual Event Detection

SUMIT KUMAR^{a,1}, GAURAV^a, SARTHAK CHAHAL^a

^a. ABES Institute of Technology, Ghaziabad, India

Abstract. An effective research field for computer image processing and deep learning[1] is unusual event detection from video surveillance. Human activities can be observed insensitive and public places through visual employment, such as bus stations, train stations, airports, banks, shopping centers, schools and colleges, parking lots, highways, etc.[2][3]. Preventing terrorism, robbery, illegal parking and injuries, vandalism, fighting, chain snatching, violence, and other suspicious activities. Public

places are very difficult to view on an ongoing basis, so there is a need for smart video monitoring that can track the actions of people in real-time and categorize them according to popular and uncommon activities and can issue an alert. A good number of publications in the field of visual inspection have been used in recent decades to identify suspicious activities. Moreover, for distinct identification, few surveys can be found in various workbooks; but none of them are responsible for any of the separate functions in the review[4]. Safety has become particularly necessary lately with the rise in the number of anti-social incidents that have occurred. CCTV has been installed by several organizations to continuously track individuals and their interactions[5]. Most videos are made and stored for a certain period (India: 30 days)[6]. To track individual data regularly to decide if unusual events are an impossible task because employees and their continuous attention are required[7]. There is also a need to indicate the frame or part of it that holds the unusual behavior that helps to make the faster judgment of that activity's unusual.

Solar Photovoltaic System With IOT

ASHUTOSH DHAR DUBEY ^{a,1}, MEENAKSHI AWASTHI ^b

^a*Ajay Kumar Garg Engineering College, Ghaziabad, India*

Abstract. Photovoltaic panels gather solar power and transform it into electricity. Solar cells are adjusted at a fixed angle making them less efficient. Solar cell's competence could be enhanced through designing a tracking system that automatically changes the spot of the PV panels in line with the movement of the sun. A solar tracking system traces both axis which is elevation and azimuth, a two-axis tracking system holds more solar intensity by tracing the motion of the sun in all flanks. The motive of project is to make our solar panels more efficient with the help of a tracking system including an Arduino controller, two motors with the arrangement of the gearbox mechanical structure rotate the solar cell next to sun, so that the sun's rays can stay aligned with the solar cell, all the sensors attached to adjacent sides of the module, using these sensors the system of tracking the sun makes a lot of sense and all helps to determine the precise spot of the Phoebus. The solar collector changes direction according to the intensity calculation. As the temperature of solar panels increases its overall efficiency decreases. Therefore, for this we add a device which is capable of cooling the panels. We add one more device to protect the battery from overcharging and from fluctuation of power generated by solar panels. We add IOT to determine the power output from solar and control the panel manually. It also helps to solve the problem of asset management.

Physical Layer Network Coding with Spatial Modulation Full-Duplex Outage Probability.

VEDANT MALPANI^a, SHIVAM KHANDELWAL^a, PRATHAMESH PHUTANE^a, RAJESH R^a, A BAGUBALI^a

^a*Vellore Institute of Technology*

Abstract. A bidirectional Full-Duplex (FD) Decode and Forward (DF) relay network has been proposed by combining Physical Layer Network Coding (PLNC) and Spatial Modulation (SM) technique. The combination of SM and PLNC enhances the system's spectrum effectively. In this proposed system, information bits are exchanged in a single time slot between two source nodes via

a DF relay node. Using the Most Significant Bit (MSB) of the data symbol transmit antenna is chosen and the chosen transmit antenna transmits the Least Significant Bit (LSB). In a Rayleigh fading channel environment, outage equations are derived for lower bound and upper bound. The proposed system outperforms the conventional direct system in terms of outage performance considerably.

IEC 61850 Station Bus based Digital Substation

N. V. Haritha^{a,1}, Brian Samuel Alfred^a, Sindhuja Vijayaraghavan^b, Jose Anand^c

^a*Meenakshi Sundararajan Engineering College, Chennai, India*

^b*Croonwolter & Dros, Netherlands.*

^c*KCG College of Technology, Chennai, India*

Abstract. – The control of diverse strength needs on the identical time has been a difficulty with analog facts acquisition strategies whilst the usage of general communicate protocols. Various Power stations at the moment are shifting toward Intelligent Electronic Devices (IED) a simulated tool in an integrated microcontroller and precise communicate procedures. IEC61850 is a universal communicate procedure for IEDs. The rather sturdy structures update traditional gadgets to attain occasion tracking, item modeling, and communicate among substations. The facts acquisition is carried out through Supervisory Control and Data Acquisition (SCADA) that gathers facts from a couple of IEDs from the identical or distinct substations the usage of Remote Terminal Units (RTU). This undertaking is to try and version a gadget that makes use of the above-stated ideas on an Overcurrent Relay (OR) by suitable safety restrictions which joins with a SCADA instrument for chasing and proofs acquisition.

Research on Face Recognition System Based on Attendance Management

RAHUL YADAV^{a,1}, SHUBHAM SHARMA^a, SHIVANSH SHAHI^a, SRINIVASAN SRIRAMULU^a

Galgotias University, Greater Noida, India

Abstract—Facial recognition technologies were implemented on big scale improvements in performance in the past few years and such systems are actually famous in fields inclusive of protection, trade and in many fields. But the principal problem is to implement a correct and ideal attendance machine in real time. Because attendance is the compulsory requirement of every organization. This is tough to mark attendance of a big number of students inside the registers and it is a very time consuming and difficult task. In this paper we provide an effective and smart system for marking attendance in an easy and simple way by recognizing faces of the students, because faces are the primary identification for any human. This system makes use of a face recognizer library for facial recognition and storing attendance within the database. This system has a camera that captures an input image then tracks the image and recognizes the face from the systems database and marks attendance in the database of school or college. The purpose of marking attendance in a smart and simple way is achieved by this automated attendance system using artificial intelligence algorithms. Face recognition systems based on attendance marking are presented using various algorithms like PCA (Principal Component Analysis), Haar like Face detection and adaboost algorithms used in face recognition systems. This software saves time of attendance marking in various organizations.

IoT Waste Clearance Machine for Smart Cities

SUBODH KUMAR^a, SHRISTI KIRAN^a, PADMANABHAN P^a, AFRIDI AKHLAQ^a

^a*Galgotias University, Greater Noida, India*

Abstract. Maintaining surroundings smoothly is one of the largest troubles in India. we as a citizen of India fails to maintain the environment clean at the everyday basis because of which human beings ought to face many troubles like fitness illnesses and plenty of problems. This paper proposes a waste clearance machine for smart cities build on IoT. The planned system could be capable of trade the solid waste observance method and control of the assortment method and use of IoT (internet of factors). therefore, an actual time waste clearance machine is critical for keeping track and managing the aggregation of waste. So, the Ultrasonic sensors are used for monitoring the status of the waste storage. If the dustbin gets complete or produces hazardous fuel then Message is dispatched, using GSM module to the municipal organization and records associated with the dustbin fame gets up to date on websites. Arduino is built as a microcontroller to associate between GSM/GPRS module with sensors.

Emotion Based Music Player Using Haar Cascade Algorithm

MD SHAHAB UDDIN ANSARI^{a,1}, AYUSH RAJ^a, ROHAN GUPTA^a, DR. T. POONGODI^a,
DR. SHRADDHA SAGAR^a

^a*Galgotias University, India*

Abstract. As we know that Song, is considered as a medium of Expression, Music is normally entwined with our everyday life [1]. Individuals will in general utilize music toward the beginning of the day to easily complete their errands, to let free after work, and to endure a preparation time. Understudies use music while learning and specialists with music out of sight play out their most concentrated methods. Fundamentally, individuals use music to improve their disposition. A positive state of the brain expands the intensity of creation, improves dynamic measures, and reinforces social connections. Besides, a positive perspective helps us from stress, which can in any case damagingly affect our wellbeing and prosperity. The thought is to computerize the connections between the clients and music player [2], to give an easy-to-understand climate. This undertaking presents a music player that learns all the inclinations, feelings, and exercises of a client also, redoes its tune determination in like manner. The different outward appearances of clients can be recorded by the device to decide the feeling of the client at that occasion to anticipate the class of the music. [3] The target of this undertaking is to distinguish feeling and select music to be played depending on the recognized feeling. Music or tunes can be an integral asset to depict human feeling here in this task is a preliminary to fabricate an incredible asset that can assist the client with playing music dependent on expressed feeling or distinguished one.

Automate Identification of semantics error for enabling errorless proof reading

Abstract. This paper mainly describes the working of Machine Learning. With the help of machine learning, we can find we can remove errors from a sentence. Errors can be of many types such as a spelling error, comparative, grammar error, plurality, punctuation error, spelling, misused, definite article, consecutive nouns, split and merge, subject-verb agreement, common noun, proper noun, double words, superlative, indefinite article, pronouns and tenses. Whenever we write an important document, we need to ensure that there should be no mistake in the document. Mistakes or an error in the document gives a bad impression to the reader. Most importantly, the sentence or paragraph that we write needs to be error-free. So, with the help of machine learning, we created software that detects the errors in the given sentence or paragraph by highlighting the error and after highlighting the error, it prints the correct sentence or paragraph. Our software works only for the English language. Our software name is "Grammar Checker". It is helpful to check the grammar of a given sentence or paragraph. The maximum character limit of a sentence or a paragraph is six hundred. Our software is written in the python language. Our software will be provided free. So, it will help people to write an error-free sentence or paragraph. A grammar checker can also be used by the people who need to write an error-free document. People can learn to write error-free sentences as our software highlights the error in the sentence. Our software highlights the error with red color and highlights the corrected error with green color. This way it will help people to find mistakes while writing an important document.

Prevention of Cheating in Exam

DEEPANSHU SRIVASTAVA^{a,1}, LAKSHYATYAGI^a, VIKAS KUMAR^a, INDU MALIK^a, PRASHANT JOHRI^a

^a*Galgotias University, Greater Noida, India*

Abstract. In today's world where cheating has become major issue in the institutions where the deserved candidate cannot get the best opportunity in the big organizations because someone else has cheated from him and got some marks more than the deserved candidate, the deserved candidate was put back because of wrong done. In this paper creator proposed with the assistance of most recent advances and devices how we can foster an answer which gives reasonable judgment to the merited-up comer and no merited-up comer will be returned. Case study of nursing students is also explained by the author. In this paper author created, OCEPS by which we can setup a protective area for the examination of students. With the help of artificial intelligence, machine learning and image recognition as a major component we can prevent cheating in examination. In this Paper, author proposed how we can use machine learning algorithms like KNN more effectively and efficiently so that the result is more accurate and provides much better results than other machine learning algorithms. Privacy and safety of this solution is also proposed in this paper so that only the concern organization can excess the system and no other third-party can harm the solution.

Facial Expression and Emotion Detection Recognition

LAV SHARMA^a, VIVEK KUMAR^a and SAHIL PERVEJ ANSARI^a

^a*Galgotias University, Greater Noida, India*

Abstract—Emotion recognition is very easy and adequate way to express someone about what you are feeling or in what mood you are in at that point of time. In the current scenario of world where everything is being computed it is important to make the machine understand those emotions or expressions. Emotion recognition is the technique used for facial expression extraction. Here we are trying to make machine learn and understand the different emotions or features extraction so as to understand a face well. A will be made used the image processing and emotion understanding which will learn various types of expression given by the person such as happy, angry, sad etc. In this paper, we will explain facial expression and difference between expression and emotions. We will also study the brief about some of the previous researches done in the same field or work. Learning about what they have done will give a brief about the new work published. This paper also explains why facial expression recognition is important and what can be future works or improvements for this system. This paper concludes every fact about facial expression recognition from its definition to how it works to its improvements.

Comprehensive Survey on Edge Computing and Its Architecture

PRIYA SINGH ^{a,1}, MUKUL AGGARWAL^a and NEHA YADAV^a
^a*KIET Group of Institutions, Delhi NCR, Ghaziabad, India*

Abstract. This paper presents an extensive survey on edge computing (EC). EC is emerging as a new way to merge the physical and virtual worlds together and enables a new way to converge Internet of Things (IoT) and Cloud Computing (CC). The performance is improved by moving both data and computing closer to the user in order to provide a distributed and dynamic environment. Nowadays, data or information are usually collected and sent to the cloud where the processing occurs, and final computed results are transmitted back to the sender device which will lead to some challenges and performance constraints. Somewhere, it is likely to hamper computation and degrade the performance of current technologies. In this survey paper, we describe EC, its architecture, its future need along with discussing the key requirement of this new distributive computing.

A Novel Approach Video Call Using Web RTC

ZEESHAN NAFEEES ^{a,1}, BIBHAS KUMAR RANA^a, ANURAG SINGH^a,
 and ANIMESH KUMAR^a
^a*Galgotias University, Greater Noida, India*

Abstract. This paper has talked regarding the connection among human beings is being terribly important than ever, human being square measure trying to find new strategies to try and do strengthen conversation between them without any issue, real-time-- verbal exchange is built- in ways integrated. WebRTC (net integrated time period verbal exchange) is the built-in-edge generation that creates real-time period verbal exchange abilities built-in audio, video, and built-in data transmission capability built-in actual-time conversation via integrated browsers with the help of JavaScript genus APIs (Application Programming Interface) while not use of the Connector. In this paper, we worked to ponder coordinated shared term report clients to talk with rapid realities channeling over the channel with the assist of WebR- TC tech, HTML5, and use Node.js server cope with. The end result

integrated that the system is strong, built-in beneficial, secure, and can use integrated a completely practical community to transmit and receive transmission statistics integrated a real-time period among users. Net connectivity has become a serious issue amongst Galgotias University (GU) university students and it additionally creates problems in duties and assignments. Therefore, this is proposed P2P video name software that makes use of network connection and does not require the plug-ins. The software reduces student statistics utilization and reduces video call costs. Features of this web application are it provides a real-time video calling utility for students to interact with one another using this interface.

Real Time Chat Application

NIKHIL JAISWAL^{a,1}, SHIVALIKA KAMBOJ^a, SURYANSH GUPTA^a

^a*Galgotias University, Greater Noida, India*

Abstract. The talk application is increasingly getting utilized as a substitute to innovative correspondence advancements like telephone and transmit. Outfitted with cutting-edge alternatives, people will utilize it for training, business, and meet and for bunch correspondence. An essential interest for correspondence is that the capacity to messages at least two-man, nonetheless, ongoing deliveries epitomize sound and video support correspondence. The framework is client-controlled and its security is independently overseen by arranging associations. Each client can have their own data of friend profiles and long-range interpersonal communication accounts confirm between each other prior to trading messages. the most commitment of this paper might be a completely incorporated talk application intended for development with security measures. The reason for this talk application is to talk with each other visit demands. This visit application has every one of the choices like elective talk state application The application offers the client time span talk setting. To improve this time-frame visit application misuse node.js, socket.io and react.js. Socket.io is utilized for time-frame data move during this application gives that data our messages. At the point when the customer is running a visit application, the customer will see the primary menu. In the principle menu, the customer will choose to buy in to talk solicitation to do as such, sign in the visit application, or log out from the application.

Classification of Diabetic Retinopathy Using Fundus Images through Knowledge Transfer Method in Deep Learning

EBIN PM^a and P RANJANA^a

^a*Hindustan University, Chennai, India*

Abstract. Medical field and Engineering field are extremely different. But engineering applications can be helpful in medical field, especially Computer Science and Engineering. One of the emerging trends in Artificial Intelligence called Deep learning can be applied in medical image analysis for the automatic prediction of various diseases. Diabetic Retinopathy (DR) is an eye complication due to diabetes. Fundus images of eyes can be used for detect the chances of Diabetic Retinopathy defects in diabetic patients. This work aims to create a Convolutional Neural Network (CNN) model using proper fine tuning method to classify the Diabetic Retinopathy severity. The comparison of accuracy with other recent works is also included in this work.

GSM Based Gas Leakage Perceptive Polymorphic Communication

PUNIT SRIVASTAVA^{a,1}, PRIYANSHI SHRIVASTAV^a, RAMESHT CHATURVEDI^a, R.L. YADAVA^a

^a*Galgotias College of Engineering and Technology, Greater Noida, India*

Abstract. This paper successfully simulates and analyzes the GSM module and Arduino-based early alerts gas leakage information so that it helps to avoid gas leakage-related accidents and save many lives. Nowadays, various matters are affecting security in different ways. Gas leakage is among them. In the present scenario, there are numerous unbelievable accidents are occurring due to gas leakage. However, one of the effective approaches to suppressing such unwanted accidents is to employ a gas leakage detector at significant places. In our proposed work a system of polymorphic communication has been designed which can provide multiple SMS/Calls to multiple peoples by GSM module. This proposed work is focused on alerting the persons so that they can take necessary action during gas leakage tragedy. In addition, certain algorithms and Arduino are used to complete the task successfully.

Attendance Monitoring Using Facial Recognition

ABHISHEK HEGDE^{a,1}, AKSHAY KUMAR^a, H. R ADITHYA ARAS^a, KOTHA AMAR^a,
DR. CHANDRAKALA B.M^a.

^a*Dayananda Sagar College of Engineering, VTU, Bengaluru, Karnataka, India*

Abstract. The daily process of Attendance Monitoring is an essential part of many organizations. The traditional methods of Attendance tracking have taken a toll on both time and accuracy. The recent innovations have proven that this process can be automated to obtain faster and more accurate results with less scope of error. Machine Learning and Computer Vision in particular are the recent developments which have proven useful in these fields. The identity of a person is through his face. Methods of using this biometric feature have seen a dramatic change since the advent of image processing techniques. Face Recognition system comes under Computer Vision and is an application of image processing. It basically consists of two tasks, identifying the person and verifying the image to a database. The objective of this paper is to automate the process of Attendance marking, by using Machine Learning techniques called Convolutional Neural Networks and Transfer Learning which are used to process the image and verify it with the trained dataset. After this, attendance is updated automatically once the verification is successful. This automation helps us to overcome human intervention during the whole process which helps us increase the efficiency of the process since there are no human errors or fake entries

A Compact Hexagonal-slot Frequency Reconfigurable MIMO antenna for wireless applications

RANJANA KUMARI^a, NIDHI BRHMARISHI^a, SHWETA SINGH^a, RUDRESHPRADHAN^a, V.K. TOMAR^b

Abstract. In this article, a hexagonal slot based frequency reconfigurable Multiple input Multiple output (MIMO) antenna is the reported for wireless applications. The compact size designed antenna is printed on top of 45x20 mm² substrate (FR4) with thickness of 0.8 mm. To acquire reconfigurability a hexagonal slot is etched out from ground plane and placed a Trishul-shaped strip on the ground plane. Furthermore, by integrating PIN diodes (D1/D2) at the lower edge of Trishul-shaped metallic strip in the ground plane, the proposed antenna has potential to attain reconfigurability in frequency responses. The designed antenna resonates at 3.5 GHz when PIN diodes are in OFF state and resonates at 5.5 GHz when PIN diodes are in ON state. To achieve isolation <-15dB, U stub is added at bottom side of substrate. The proposed antenna has stable radiation patterns with gain ranging from 3.1dB to 3.9dB and also offers around 80% radiation efficiency in ON /OFF state. The suggested reconfigurable MIMO antenna also offers adequate diversity performance with regard to parameters like ECC<0.5 and DG>9.5 in both state of PIN diodes. The measured return loss in ON and OFF conditions are -38dB and -43dB and measured isolation in ON and OFF conditions are -31dB and -18dB. The simulated results and experimental results of S₁₁(dB) demonstrate that reconfigurability with antenna achieve satisfactory MIMO performance with low mutual coupling and good diversity performance.

Contextual Knowledge representation for Interoperability in Internet of Things

S. PRAKASH^a and T. POONGODI^a

^a*Galgotias University, Greater Noida, India*

Abstract. IoT technology mostly used all types of applications in various domains. Natural language processing is a powerful technique to automatically process text data of specific domain research articles. Various IoT-related research article terms are converted into a corpus by the skip-gram model. This model produces the most similar word and vector points based on given ontological input. These terms are clustered using their vector points by an unsupervised machine learning algorithm. These clustered pieces of knowledge may be reused in further IoT applications. My proposed idea is to annotate clustered IoT-related domain terms for the domain of smart cities, smart homes, weather forecasting, and transportation in contextual OWL-based ontology. We added 600 concepts in the contextual ontology for the aforementioned domain.

Chirographic Digit Recognizer Using Machine Learning

AAYUSH SRIVASTAVA^{a,1}, ROHIT YADAV^a, RISHI MATHUR^a, JAYAKUMAR VAITHIYASHANKAR^a

^a*Galgotias University, Greater Noida, India*

Abstract—Transcribed digit recognition is a critical issue in model affirmation applications, which perform computerized acknowledgment of patterns in data. Transcribed digit recognition, a subset of character acknowledgment, is the machine's ability to perceive manually written digits. The

manually written digits are of various sizes, widths, directions, and so on this, the overall impediment is while recognizing similarities in the digits and labelling them. The machine needs to confront a lot of misfortune because handwritten digits are not that good and can be made in countless unmistakable different ways. Physically composed digit affirmation is the plan for this issue since it utilizes the picture of a digit present in the training data and perceives the digit present in the picture of test data. Physically composed digit affirmation accepts a basic capacity in various client confirmation applications, for example, postal message arranging, bank check handling, structure information section, and so on. The essential objective of this digit affirmation is to ensure a strong and trustworthy philosophy for the affirmation of physically composed digits. This translated digit affirmation system isolates digits from 0 to 9. For this Keras library in Python, is utilized for characterization of MNIST dataset, an enormous information base of transcribed digits. This finding will carefully enhance the overall performance of the chirographic digital recognition with the help of Quantum Machine Learning Model.

Web-Based Simulation for Collaboration Between Startup, Entrepreneurs and Investors

M.S. CHANDRAMOULI^{a,1}, K. SRIDHARAN^a, M. CHANDU SRINIVAS^a, H. ABINESH^a and P. RISHI KESAVAN^a
^a*Panimalar Engineering College, Chennai, Tamilnadu, India*

Abstract: Currently startups are lacking to have the knowledged manpower and efficient computational power and resources to implement their ideas to the fullest of their potential. This service helps all the suffering startups to spread their wings and collaborate with like-minded and motivated personnel to achieve the need of both the manpower and the computational efficiency, and also helps to get all the investors to one place to refer and find the right place to invest in. This is a portal for startups to register their companies as firms where startups can share their resources with other startups to collaborate in systems or just provide their excess resources like computational services for the needed. Startups can also share their patented ideas and systems with the community to attract investors. Investors can check the work of every startup and reach out to them if they are interested in any of the startups which helps startups to get funded easily and complete their systems at minimal costs.

Driver Drowsiness Detection Using Image Analysis

PRATHMESH RUSTAGI^{a,1}, NIKHIL MISHRA^a, ADITYA BANGARI^a, and PRAVEEN MISHRA^a
^a*Galgotias University, Greater Noida, India*

Abstract – Driver fatigue and drowsiness are two of the most common causes of car accidents. In this paper, we address a method for identifying and alerting drowsy drivers. The goal is to cut down on the number of accidents caused by driver fatigue and as a result, improve transportation safety. As an indication of driver exhaustion, several different body and face movements are used. We are proposing a vision-based fatigue detection system to detect drowsiness among drivers which we have implemented using Python 3.6 and supporting libraries. We acquire the image of the driver and recognize the facial landmarks using OpenCV. We may then detect the location of

the eyes to track eye movement. An alarm sound would be played with the help of Pygame to notify or alert the driver. We have checked the efficiency of the model by trying it out on different subjects with a limited number of test cases and it accurately detected drowsiness in 85% of the cases.

Comparative Review of Optical Routers

ANAND V. SUTAR^{a,1}, SHILPA GAIKWAD^a

^a*BVDU college of Engineering, Pune, India*

Abstract. Nowadays multi-core processors along with various other modules like RAM, ROM, Cache, etc are densely placed on a single chip. System on Chip (SOC) technology makes this possible. Also, super-fast, low power, high bandwidth interconnections of networks are needed in SoC technology. All these requirements can be fulfilled with new generation technology called Optical Networks on Chip (ONoC). The ONoC performance mainly depends on the Optical Routers. The optical Router is the main part of ONoC. To date many researchers have been proposed several Optical Router designs, every router has its advantages disadvantages and features. In this paper, the most popular optical routers are discussed and compared.

License Plate Detection System

PRAVEEN KUMAR MADURI^{a,1}, AMAN GUPTA^a, EESHAAN DUTT^a,
SHALINI RATHOUR^a AND PREETI DHIMAN^a

^a*Galgotias College of Engineering and Technology, Greater Noida, India*

Abstract License plate recognition is a highly efficient technology being utilized in the present time with worldwide usage. Presently, these systems serve as a major source for e-challan by inducing the system with essential parameters such as speed monitoring and other traffic-flow governing parameters which makes it useful in monitoring and controlling traffic flow. This technology can be induced in either real-time detection systems or operation on still-images. Real-time detection components systems are costly and are not useful to be implemented on individual scale utilization. Hence relatively, capturing the image and implementing machine learning algorithms to decode the license plate might be cheaper and more useful. The proposed model focuses on the localization of License plates via image processing techniques based on OpenCV library, and character recognition is based primarily on KNN machine learning algorithm. The proposed system focuses on the detection of License plates on still images/ captured frames, which can be useful for small-scale applications, such as parking lots, home-security setup, etc.

University Attendance System Using Face Recognition

SUBHANGI PANDEY ^{a,1}, SUBODH KUMAR PANDEY ^a, DEEPANSHU KUMAR ^a, SREENARAYANANNM^a

^a*Galgotias University, Greater Noida, India*

Abstract. We know how much time we waste in taking student's attendance manually so that we have to have an efficient system to manage our time. In our system, we will install a camera in

front of the classroom which will detect the faces and capture the image of the student's face and then match it to the data of the student. However, usual methods of going to university can present a variety of problems. Therefore, face recognition systems will be an effective way to overcome this problem. This paper will introduce an automatic system where the attendance of the student is marked as a present by his/her presence in the class with the help of face detection and recognition in the database. This process of facial detection will be done using the Haar cascade classifier while part of facial recognition will be done using local binary patterns.

The Role of Hybrid Models in Skin Lesion Detection: A Study

KUMUD DIXIT^{a,1}, PRASHANT JOHRI^b, R L YADAVA^c, and SANJAEV K PRASAD^b

^a*D.S. College, Aligarh, India*

^b*Galgotias University, Greater Noida, India*

^c*Galgotias College of Engineering and Technology, Greater Noida, India*

Abstract: A delay in identification and treatment might lead to a lack of consciousness of these crucial disorders. Skin cancer is among the most serious but treatable kinds of cancer and, if diagnosed in the early stages, the death rate can be reduced. Numerous support systems for AI are being developed for the help and efficiency of dermatologists. These systems are produced utilizing machine learning algorithms, deep learning models and models that are created by integrating numerous machine learning algorithms or profound learning models. Research demonstrates that hybrid models may be particularly useful when working with huge datasets and producing a better accuracy rate for illness detection. The authors have given in this work a hybrid model analysis that is more precise for the categorization of skin cancer.

Malware Classification using Dynamic Analysis and Advanced Feature Engineering

VIVEKANAND KURIYAL^{a,1} and DIBYAHASH BORDOLOI^a

^a*Graphic Era Deemed to be University, Dehradun, Uttarakhand, India.*

Abstract. Malware detection is a very important task for every organization into their system and network. For this purpose, mainly 2 types of techniques used signature-based detection and behavior-based techniques. The researcher is more focused on the behavior (dynamic) Method. To monitor the dynamic behavior of any malware we need to create a virtual environment where we can test a sample and capture its features at the run time. The feature will help the researcher to detect malicious code in the system. In this research, we created a virtual environment using the Cuckoo sandbox and configure it to extract complete features of a malicious program. After the analysis, some sets of files are in the sandbox. It generates a report in JSON format, we extract all features in the dataset and train our model using the Machine Learning classifier. The accuracy of our model is 93%.

Precision Irrigation using wireless network

PRAVEEN KUMAR MADURI^{a,1}, FAIQ JAMIL^a, ABHINAV SINGH^a, JUVERIAHUSSAIN^a, ABHINAV SINGH PATEL^a, CHINTAKINDI SANJAY RAMESHWAR^b and KUSHAGRA SINGH^a

^a*Galgotias College of Engineering and Technology, Greater Noida, India*

^b*College of Engineering, King Saud University, Saudi Arabia*

Abstract. The research study of precision irrigation systems focuses to improve the traditional method of irrigation systems. The client of this system is using drip into a pipe which is a circle-like structure and this client is getting supply from a solar cell to function. The client is using a moisture sensor and electrical conductivity sensor, to sense moisture of soil and conductivity of soil respectively. If soil moisture is lesser then the pump gets supply and irrigation started. if the conductivity of soil is lesser then valve connected to nutrient container get open and few drops of nutrient mixed with water during irrigation soil get what it needed. This system is using a network of the sensor to endure the monitoring the moisture and conductivity of soil by sensing and acquiring data in real-time. It is critical to use a huge amount of water, this helps process the amount of water to be used.

Analysis of Agricultural Parameters using Machine Learning for medicinal plants

PRAVEEN KUMAR MADURI^{a,1}, RISHABH SRIVASTAVA^a, RIYA SINGH^a,

PREETI DHIMAN^a and KUSHAGRA SINGH^a

^a*Galgotias College of Engineering and Technology, Greater Noida, India*

Abstract. India is a country that is mostly based on agriculture, and herbal plants such as tulsi, giloy, carom, etc. are originated here for a very long time. At this time, the attentiveness of purchasers towards medicinal and aromatic plants has reached an increasing trend worldwide. Now people are using the old traditional methods for medication. This paper aims to design a system that will automate the process of recommendations of medicinal plants to grow in a field with the help of its soil nutrients like NPK and gases present in it. The data of plants is obtained through the various sensors used and those parameters are used by machine learning algorithms i.e., KNN (k-nearest neighbors' algorithm) and decision tree to predict the suitable crop. This pandemic has also taught us that how much availability of herbal plants is necessary for our living. The recent demand for these herbal plants causes high variability that may change the quality and efficiency of herbal medicines. Not just in the medical field but some essential oils, pharmaceuticals, colorants, dyes, cosmetics, and biocides are obtained from herbal plants. This system also helps the farmers to choose for them suitable crops.

Automatic Medical Oxygen Generator

PRAVEEN KUMAR MADURI^{a,1}, YASHI MISHRA^a, MEHUL YADAV^a, ISHA ARARWAL^a, CHINTAKINDI
SANJAY RAMESHWAR^b, KUSHAGRA SINGH^a

^a*Galgotias College of Engineering and Technology, Greater Noida, India*

^b*College of Engineering, King Saud University, Saudia Arabia*

Abstract. Oxygen Concentrator is the device that increases the concentration of oxygen in air to a purity level of 94-97%. Earlier the oxygen concentrators were not capable of checking the purity of oxygen & also there is so much manual work involve in it. Therefore, to overcome from the problem an Automatic Oxygen generator connected with Microcontroller is designed. When the environmental air passes through the compressor it compressed the air and sends the data to the micro-controller, it will pass to the Zeolite chamber where Nitrogen is removed and pure oxygen is stored in the cylinder. After the storage two sensors are connected - the first one is Pressure sensor and the second is SPO2 by using the pressure sensor pressure of stored oxygen is sensed also at the same time the concentration of oxygen in human blood is sensed by SPO2 & accordingly oxygen is delivered to human body. The significance of this automatic oxygen concentrator with microcontroller is to reduce the manual work and it also has the ability of measuring the purity of oxygen.

Design and Implementation of 16-Bit RISC Processor Based on Pipelining Technique Using Verilog HDL

AVANISH PRATAP SINGH ^{a,1}, ASHUTOSH RAJPUT^a, AMRIT PRAKASH^a and AMIT GUPTA^a

^a*Galgotias College of Engineering and Technology, Greater Noida, India*

Abstract. RISC (Reduced Instruction Set Computer) is a programming technique that embraces small and basic instructions, all of which needs the same amount of time to be implemented. We propose a 16-bit pipeline RISC processor using Verilog HDL in this paper. This processor consists primarily of ALU, Controller, Register File, and Data Memory Unit blocks. There are 13 instructions included in the suggested processor which can be executed really fast. The Xilinx ISE platform has been used to test the proposed RISC processor.

Crime Analytics Using Dynamic Dashboard

ATIN VERMA^{a,1}, ASHUTOSH KUMAR SINGH^a, VISHESH TRIPATHI^a, A. DANIEL^a

^a*Galgotias University, Greater Noida, India*

Abstract – Using data analysis to study, we are analyzing the trends of crime, how they are increasing in various states of the country. In this, we are going to implement a dynamic dashboard through which the visualizations are going to take place. In this analysis, we provide visualization of every part of the country's various crimes by doing these analytics we can conclude how the crime is increasing at which rate in which areas. We can visualize the crime scene area by google map API on

the dynamic dashboard. Through dashboards, we are visualizing the trends of crime areas dynamically.

Suicide Prediction in Social Media Users using Machine Learning

AVIRAL CHANCHAL^{a,1}, ANANDHAN K^a and AJAY SHANKER SINGH^a

^a*Galgotias University, Greater Noida, India*

Abstract. With advancements being made in the field of Social Network platforms and with data being generated by them in humongous amounts, the scenario has urged students and researchers to analyze their functioning for unravelling unknown secrets. Suicide is a dangerous and disturbing phenomenon which is growing more and more fatal each year. Suicide causes one death every 40 seconds, which amounts to about 800,000 deaths annually. ML analysis of data crawled from online social spheres presents a potential way to understand surrounding influential conditions which may contribute to a person's behavior and thoughts in relation to suicide. In our paper, we put forward an ML classifier based on NLP for identification of suicide related words in tweets, for predicting the suicidal acts using data crawled through social media platform called Twitter. We present a system that can automatically perform sentiment analysis of these tweets and tell whether the text in the tweet is suicidal. We use Natural Language Processing to analyze tweets from unrelated users and Stochastic Gradient Descent classifier to classify tweets. Our method's accuracy as well as effectiveness in performance for suicide prediction using Twitter data, are clearly depicted by the results.

A Survey on Augmented Reality

TUSHAR JAISWAL^{a,1}, AMJAD ALI KHAN^a, VAIBHAV MAHESHWARI^a and
S. PRAKASH^b

^a*Galgotias University, Greater Noida, India.*

Abstract: This article examines the sphere of augmented reality, in which three- dimensional digital devices are enclosed in a three- dimensional real-time configuration. In this article, the medical, manufacturing, visualization, route planning, indulgence, and marine programs are studied. This article describes the characteristics of augmented reality systems, including a careful dialogue about the trade-offs between optical and video mixing approaches. This survey provides a rationale for anyone interested in discovering augmented reality.

Threat Detection Rope Roaming Human Safety Robot

PRAVEEN KUMAR MADURI^{a,1}, PRIYANKA SHARMA^a, HIMANSHU SAINI^a, SAKSHI SINGH^a AND
PRADYUMAN MANI TRIPATHI^a

^a*Galgotias College of Engineering and Technology, Greater Noida, India*

Abstract. The human safety is affected due to lack of advanced security technology and increasing crime rate. Existing models work on road that's why traffic problems, delay to reach at incident, these

types of obstacles may come on the way to secure any area. Due to which sometimes it is unable to carry out the required operation. The current research has aim to protect and surveillance the road/premises with advanced technology which will give results in higher security features. So every part of society/road/premises can be monitored and protected easily. It works in both day and night 24X7 continuously. It has ability to run immediately to the incident's direction and click the picture of that instant. Whenever the sound of any crash, accident, crying etc. is detected then it will move on the rope /wire to take the evidence of that accident place. It works on predefined back-forth path for surveillance. It scans the area with 360-degree angle using HD camera and transmits clicked pictures on designed IOT platform for taking action and investigation purpose by assigned authorities.

Method for Edible Oil Quality Analysis

PRAVEEN KUMAR MADURI^a, AVINASH KAUSHAL^a, GUNJAN KUMARI^a, ABHISHEK KUMAR^a

^a*Galgotias College of Engineering and Technology, Greater Noida, India*

Abstract. The edible oil, on being used for frying food items and reused multiple times, develops variations in its physical and chemical characteristics. The presence of unhealthy adulterants can be tracked using physio-chemical techniques like high performance liquid chromatography, thin layer chromatography and near-infrared spectroscopy. Devices like Cap Sens 5000, Ebro 310 and Testo 270 are functionalized to evaluate deep fried oil quality based on its TPC (Total Polar Compound) value. In this paper, an electro-chemical technique is proposed which can analyze variations in three of the many physical and chemical parameters of the edible oil – electrical conductivity, viscosity, and color, using a convenient and systematic approach. The technique involves processes that can be applied individually or simultaneously over small-scale analysis, without the requirement of skilled operators or expensive chemicals. Additionally, the system can compare the quantitative results of these processes to a standard value and display if the oil is fit or unfit for consumption.

Real-time Medical Liquid Drip Monitoring and Controlling System

PRAVEEN KUMAR MADURI^{a,1}, MOHD. ALAMGIR KHAN^a, RAJESH YADAV^a

^a*Galgotias College of Engineering and Technology, Greater Noida, India*

Abstract. When the drip is injected to the patient there was a problem to monitor it again and again. Due to end of liquid before estimated time, results in negative consequence to the patient. In this project it is not needed to monitor or watch the liquid bottle again and again hospital staff member will get bottles. Information through IOT and notification with the current liquid level. It helps in reducing the efforts of staff member and can be controlling of drip is performed with blynk application installed in the phone or desktop of respective medical staff member of respective medical staff member. Liquid control flow is operated with the help of servo motor which can control the infusion set valve so that the flow can be slow down or fast during the drip injection. It will work on the process, when liquid start dripping then it can be monitored on the screen as liquid level drops it will be visible in real time and alert when it reaches at minimum level (100ml) also start alerting. The whole system can be controlled by this application through internet of things and ESP8266.

Driver's fatigue detection using Python

SAUMYATA SINGH^{a,1}, HIMANSHU CHAUDHARY^a, DEVANSH SACHAN^a, SUBHASH C. GUPTA^a

^a*Galgotias University, Greater Noida, India*

Abstract. Drowsiness is taken to be risky when it performs undertakings that needs steady fixation, for example, Driving a vehicle. At the point when an individual is worn out enough, languor can be. Sleepy driving is a typical and genuine general medical condition that merits consideration, instruction, and strategy programs and in this way a lot of life can be saved, and inability forestalled because of driving mishaps. The mass number of road accidents that happens every day in our day-to-day life is on an increase and in which driver fault is maximum either he feels fatigue or sleepy. According to United States survey it is reported that in 2016 more than 30 lakh road accidents occurred, and which had more than 3 lakh major injuries. The most interesting thing is that in that survey it is given that 70% accidents happened because of fatigue driving. Drowsiness is too dangerous when performs task in our day-to-day life which need high concentration. When a person is feels numb or fatigued, drowsiness is there. Drowsiness in driving leads to a major health issue for an individual that deserves high attention. By doing this and individual can save there as well as others life as well. In this the attempt to scale back the no of accidents to save many lives, the main venture in this is face expression, yawns, EAR (which includes eye roll) which is used to see whether the driver is in fatigue or not. This paper includes all about the condition of driver and notifies the owner about the driver is he feels sleepy or drowsy.

An Enhanced Real-time Chat Application using Firebase Framework

PRATHAM MITTAL^a, KARTIK GARG^a, SUMIT DIXIT^a, N. SURESH KUMAR^a

^a*Galgotias University, Greater Noida, India*

Abstract. The Chat rooms recently became a popular feature and need because of support for a feature for n - way talking and messaging among a gaggle of people with common interest or a serious talk for a topic. Chatting or messaging applications to be precise are now available as simple ones like textual and large bulky applications which have a lot of animations and features. During this journal we are implementing an easy textual chat server-client application for normal usage of individuals. Mails, newspaper groups and various messaging apps provide communication to connect and message some friends and other people, but these are one-way mechanisms and that they don't provide a simple thanks to keep it up a real-time conversation or discussion with people involved. Chatting rooms extend the concept of one – way messaging to more flexible and reliable accommodating multi-way communication among a gaggle of people. This chat application will be focusing on the quality and the users' requirements. The chat application will be secured by encryption techniques and the storage space will also be taken care of. Talking about the end - to - end encryption, which is a hot topic for chat applications, it would be surely taken care of, and it would receive updates for the smooth functioning and improved security for the users' data. The application is meant to target the audience of all age groups. Every-one in the world should be able to the application that is the main goal. The application user interface is kept simple to suit people of every age group. This application would also focus on the payment techniques which is also a hot topic nowadays. It would transform the way

we do payments. This feature would surely broaden the application's reach and it would benefit the people.

Machine Learning Algorithm based Price Forecasting of a Product Incorporating Sustainability Factors

SWASTI SINGHAL^{a,b,1}, LAXMI AHUJA^b, HIMANSHU MONGA^c

^a*Galgotias College of Engineering and Technology, Greater Noida, India*

^b*Amity University, Noida, India*

^c*JLN Government Engineering College, Sundar Nagar, India*

Abstract. New innovations in the products are rapidly growing these days. Companies decided to improve people's lives by designing new products consistently. The wide range in the industry is one of the biggest issues in present. For any business sector, integral approaches rely on productivity. Proper technical analysis is required to improve the performance of the industry. The role of Machine Learning (ML) is substantial not because it holds the potential to deal with sustainability issues, but because it also addresses high voluminous data in the production process. The industry is also concerned with ensuring product sustainability. First section of the paper describes the past assessment theory and challenges to product sustainability. Second section is divided into machine learning approaches, performance evaluation methodology and result. This paper presents how changes can be seen in result while incorporating the sustainable factors into the dataset.

Smog Treatment Filter

PRAVEEN KUMAR MADURI^{a,1}, PREETI DHIMAN^a, CHINMAY CHATURVEDI^a, ABHISHEK RAI^a

^a*Galgotias College of Engineering and Technology, Greater Noida, India*

Abstract. With increase in industrialisation and deforestation, the level of air pollution is increasing rapidly and level of smog in environment is going up. Many techniques are developed for smog filtration like corona ioniser, HEPA filter for eliminating PM2.5 particles, along with different biological treatment process such as trickling biofilters and bio-scrubber filters for removing VOCs (Volatile organic compounds) from surroundings. The proposed system is developed for treatment of smog by filtering out its components namely PM2.5 particles, carbon monoxide (CO), oxides of nitrogen (NOx) along with VOCs and excess water vapour present in the environment based on compartment filtration technique which filters out each part of smog separately. It aims at monitoring the level of harmful gases regularly using the combination of microcontroller and different sensors. Along with detection of gases, the microcontroller is responsible for controlling air flow inside the system. Additionally, the arrangement kills microbes present in the air.

Twitter Sentiment Analysis using Machine Learning

SYED MD ARBAZ^{a,1}, MOHAMMAD DANISH^a, SAURABH KUMAR SRIVASTAVA^a

^a*Galgotias University, Greater Noida, India*

Abstract. With the rapid growth of internet culture, we have also seen an increase in the use of social media websites such as Twitter, Facebook, and others. A lot of data is being generated by them every day. This data is highly unstructured. Sentiment analysis is a method for gaining relevant insights about a product or a person when the data is mostly in text form. In this paper, we will see how sentiment analysis can be carried out on data from a social media website like Twitter to extract useful features. This analysis can be used to gather opinions around certain topics, like a product launch, opinions around a person, understanding customers or even predicting the election results, etc. A text-based sentiment analyzer can be used to carry out such tasks on data from different sources. In this paper, we'll learn about the tools that can be used to analyze the data and gather relevant insights from it.

Approximation and Analysis of FIR Multiband Pass Integrator

SUMIT BHARDWAJ^{a,1}, R. L. YADAVA^b, ASHWNI KUMAR³

Amity University, Noida, India

Galgotias College of Engineering and Technology, Greater Noida, India

IGDTUW, New Delhi, India

Abstract. In this paper, novel design of integrator, capable of performing on single as well as multiband are presented. This involves the implementation using the approximation of transfer function, $Q_n(\omega)$ and $P_n(\omega)$, obtained from Z-transform. The obtained weights are made function of the same sine and cosine function. The error of such integrator is reduced by more than half as compared to existing integrators.

Normal and Abnormal Fetal Brain Image Classification using Convolution Neural Network

S.P.GAYATHRI^a, S.VIJAYALAKSHMI^b, R. SIVA SHANKAR^c, P. DURGADEVI^{d,e,1}

^aGandhigram Rural Institute (Deemed to be University), Gandhigram, India

^bCHRIST (Deemed to be University), Lavasa, India

^cInternational College of Digital Innovation, Chiang Mai University, Thailand

^dGalgotias University, Greater Noida, India

^eGalgotias College of Engineering and Technology, Greater Noida, India

Abstract. The recent era gift us with digital technologies for imaging in medical field and clinical trials. The Last era was finding the abnormalities of the adult brain and current trends involve in Fetal Magnetic Resonance Imaging (MRI). This MRI facilitates in observing the growth of fetal brain in every trimester, which gives direct results in finding the normal and abnormal growth of the fetus and the mother's health as well. Unless very few experts, all the other medical practitioners required the support of the segmented brain region of the fetus. Extracting fetal brain from every slice by the physician, is not easy like the adult human brain segmentation. Adult brain MRI and fetal MRI are having major differences in classification methodology. Especially in this article, we try convolution neural network (CNN) to create a model to classify the Normal and Abnormal Fetal MR images. The

pipeline of this proposed method incorporates image contrast enhancement, feature extractions which are required for classification. Convolutional Neural Network (CNN) provides a model which are highly trained to classify fetal brain images. The performance of the proposed method is confirmed by testing 16 volumes of fetal MRI. Since this article embraces both accuracy of the classification model and the similarity index, Dice, Precision, Recall and F1-score are employed and the results shows that this model classify the image well.

Fetal Brain Localization, Segmentation and Anomalies Detection through Random Forest Classifier

S. VIJAYALAKSHMI^a, P. DURGADEVI^{b,c,1}, A.S.MOHAMMED SHARIFF^c, S.P.GAYATHRI^d

^aCHRIST (Deemed to be University), Lavasa, India

^bGalgotias University, Greater Noida, India

^cGalgotias College of Engineering and Technology, Greater Noida, India

^dGandhigram Rural Institute (Deemed to be University), Gandhigram, India

Abstract. Identifying and ordering fetal mind irregularities from attractive reverberation imaging (MRI) is significant. Early discovery of fetal mind anomalies utilizing proposed strategy methods can improve the nature of finding and treatment arranging. It tends to be applied for clinical pictures to help doctors in delivering clinical conclusions. Since the human mind is quite possibly the most perplexing also, the complex organ in the human body, investigation of its construction, capacity, and sickness is significant. The improvement of the mind starts at the initial not many weeks after origination. Mental health is unfavourably influenced by preterm birth. As around 3 of every 1000 ladies are pregnant with a fetal of an unusual mind, recognizing and grouping fetal cerebrum anomalies is significant. The proposed strategies are a generally excellent approach and can be utilized for early discovery of fetal mind irregularities, in this way, improve the nature of analysis and treatment arranging. In this work, a pipeline interaction is proposed for fbrain classification which uses the Random forest Classifier technique. The fundamental commitment of this work is the grouping of fetal cerebrum irregularities in the beginning phase before the fetus is conceived. The proposed calculation is equipped for recognizing and arranging an assortment of irregularities from MRI with wide scope of embryo gestational age (from 16 to 39 weeks) utilizing an adaptable and straightforward strategy with a low computational expense.

Electric Hazards Analysis: A review

ABHINAV SAXENA^a, NIRMAL KUMAR AGARWAL^a, AMIT KUMAR SHARMA^b, ARCHIT KUMAR^{a,1}, ARPIT SINGH^a, ARPIT YADAV^a, ARUN KUMAR^a

^aJSS Academy of technical Education, Noida, India

^bGalgotias College of Engineering and Technology, Greater Noida, India

Abstract. Electricity is inseparable part of our life but it is also life taking factor if not handled properly. Anyone can be exposed to electrical hazards at home or work. Electricity not only utilized in every industry it is also a major industry. Precaution, awareness, rules and regulations can make the proper path to flow the current in safe and usable manner. This paper represents the various electrical hazards with the various works worldwide to reduce these hazards and the solutions in term

of rules and regulations also discuss the problem to implementation of these rules with the solution to prevent hazards by reinforce or amend the safety rules and its practice.

Image Enhancement using Different Filters for Remotely Sensed Data

JANARTHANAN. S^{a,1}, GANESH KUMAR. T^a, S. VIJAYALAKSHMI^b

^a*Galgotias University, Greater Noida, India*

^bCHRIST (Deemed to be University), Lavasa, India

Abstract. This paper represents the most effective filtering techniques for enhancement from LISS IV remotely sensed band images. Most of the common filtering techniques used are based on spatial and frequency domain filters and in specific filters like wiener filter, median filter, mean filter and with selected noise removal salt and pepper and Gaussian filtering techniques and based on filtering with contrast stitching and brightness enhancement will apply to that image to improve the quality of image clarity with those standard techniques with normal enhancement process of a color image to increase the brightness, color, contrast and sharpness. with an unsharp filter and histogram plot with masked image representation. The process of enhancing image quality is increased.

Aspect Category Analysis on Sentiments via Machine Learning

HIMANI MITTAL^{a,1}, ARPITA GUPTA^{a,2}, ANSHU GUPTA^{a,3}

^a*RKGIT, Ghaziabad, India*

Abstract. Sentiment analysis is a way to help the computer system to understand the human thought processes. In the present paper, a proposal has been made to describe aspect category sentiment analysis based on machine learning using a written text. In this paper the method is offered is to find the different-different thoughts i.e. favorable, non-favorable or neutral. Here polarity is reported as joyful, depressed, annoyed or excited and many more.

Safeguarding Anonymity of Web Users Identity using Login Key

HIMANI MITTAL^a, HIMANSHU TRIPATHI^{a,1}, SHIVANSH SHRISH TRIPATHI^{a,2}

^aRKGIT, Ghaziabad, India

Abstract: In this rapidly growing world data is being generated at a very high pace, with very few resources to analyze this data. Only a very small portion of it is being able to use for social benefits. Big Techs uses this data some for the betterment of society and some for manipulating certain groups of people's mindsets and for filling their own pockets by showing ads or by selling our data which is a major concern nowadays. We in this paper are trying to keep user's anonymity in a way by providing login keys that help them to browse safely and maintain their anonymity without being followed by advertisements to influence them. And also allow them to make decisions between the real world and some made-up world for them by Big Techs. It helps people to keep their data safe and not being used against them being manipulated.

A new Substrate Integrated Waveguide Leaky-Wave Antenna based on CRLH

RISHABH PRABHAT SAXENA^a, SAKSHAM OMER^a, RISHABH DWIVEDEE^a, SAKSHI MITTAL^a, RUCHI AGARWAL^{a,1}

^a*Galgotias College of Engineering and Technology, Greater Noida, India*

Abstract. A new kind of SIW based leaky-wave antenna(LWA) is being developed, which has the interdigital slot (ID slots) adjusted in the N-shape. The antenna scans backward and forwards continuously with suppressed stopband using SIW and CRLH property design and demonstrates an LWA with improved gain and better efficiency. Open stopband (OSB) is reduced as the CRLH unit cell's features are being fine-tuned. The dispersion diagram of LWA is studied to confirm the reduced OSB. As the source frequency changes from 13.2 to 16.8 GHz, the LWA scans the beam from -12° to 21° , providing a beam scanning from back to front, including broadside radiation. The simulated reflection coefficient of the proposed antenna is less than 10 dB throughout the entire operating frequency range, and the side-lobe level is also less than 10 dB. The maximum gain achieved by this antenna during scanning is 12.71 dB.

Chat-bot Implementation using Natural Language Processing and Finite State Machine

NOOR MOHAMMED V^{a,1}, PRIYANKA LALWANI^a, SHIVAM MEHTA^a

^a*VIT University, Vellore, India*

Abstract. A chatbot strives to assist humans, by making their interaction with a machine easy. This paper gives an elaborate understanding of the implementation of a chatbot using the concepts of Natural Language Processing (NLP) and Finite State Machine (FSM). The bot simplifies the input provided by the user and classifies the intent using NLP and Machine Learning algorithms. The responses are stored using State Machine logic, which allows the user to have a continued conversation referencing the previous inputs. This is unique in comparison to the existing technology since the previous states have been stored and subsequent questions are answered in context to them.

Performance Evaluation of Selection Combiner under different Fading Conditions - A Review

ABHISHEK SEMWAL^a, RINKY^a, MOHAMMAD IRFANUL HASAN^{a,1}

^a *Graphic Era Deemed to be University, Dehradun, India*

Abstract. Mobile communication is evolving with an increase in the number of potential users and the addition of new high-speed services. To fulfill this demand becomes difficult since wireless communication is subjected to many constraints, out of which one is Fading. Outage probability and Mean signal-to-noise ratio (SNR) are some of the standard performance defining parameters that characterize the diversity systems running over the channels with a fading environment. Under Nakagami-m fading distribution, the probability density function (PDF) and the amount of fading (AF) have been evaluated. The Outage probability is further calculated using the PDF and graphical results of the outage probability have been presented and compared for different fading conditions under diverse paths. Also, the mean SNR is compared numerically with different paths and fading conditions using Selection Combining (SC). The comparison between the Mean SNR gain under SC with diverse branches under different fading conditions is tabulated.

Design and Analysis of SIW based MIMO antenna for 5G application

AMANPREET SINGH SAINI^{a,1}, SANGHARSHA SINGH KUSHWAHA^a, SAURAV SHARMA^a, SHUBHAM KUMAR BARNWAL^a, SHUBHAM SINGH^a

^a *Galgotias College of Engineering and Technology, Greater Noida, India*

Abstract. In this epoch, the study of communication system and antennas have received a huge impulse from research fraternity. In this paper triple-band, slot antenna array is proposed using circular cavity, parasitic element, substrate integrated wave guide (SIW) technology for 5G applications. For the multi-resonance proximity-coupled slot is used to excite the high-order modes. The results show that the operating bands of 27.4 GHz to 30.4 GHz and 32.6 GHz to 38.7 GHz are achieved, which falls in the n260 and n261 band in mm wave band spectrum. The total gain is 15.57 dBi at 28 GHz and 21.05 dBi 38 GHz.

UWB Compact Wearable Orthogonal MIMO Antenna with High Isolation

AMANPREET SINGH SAINI^{a,1}, ANKIT SHARMA^a, NIKITA CHAUHAN^a, VANSHIKA GUPTA^a, VAIBHAV SINGH^a

^a *Galgotias College of Engineering and Technology, Greater Noida, India*

Abstract. A four-element UWB compact wearable orthogonal MIMO antenna with low mutual coupling is introduced in this work. In order to reduce mutual coupling, the concept of a split ground

plane is introduced among the four antenna elements (having dimensions 40mm x 40mm x 1.6mm). The self-parameters of the proposed MIMO antenna ($S_{11} < -10\text{dB}$) are obtained from 3.36 GHz – 10.6 GHz. The isolation parameter among the radiating elements is also below -23 dB for the entire UWB range which is accomplished by their orthogonal positioning on the substrate. Throughout the operating frequency, the value of ECC is less than 0.00020 with a strong diversity gain ($DG > 9.9\text{ dB}$). Also, S-Parameters, radiation pattern, and diversity performance (i.e. diversity gain, envelop correlation coefficient, TARC, CLL) are studied to legitimize the performance of the antenna which are found to be satisfactory. As a result, this antenna has applications in the medical area 5G wearable devices and satellite communication.

Twitter Sentiment Analysis

JASPREET KAUR^a, SONAM PRIYA^{a,1}, RAHIL KHAN^a, RITIK SINGH^a

^a*Galgotias College of Engineering and Technology, Greater Noida, Uttar Pradesh*

Abstract. People are sharing their feelings now more and more these days due to the availability of internet facilities and other such tools as twitter and other social media sites, and as a result, we are receiving a large amount of positive and negative feelings shared. Public and private opinions on a wide range of topics are constantly shared and distributed through a variety of social media platforms. Creating a sentiment analysis program is a method for computing consumer's experience. This paper details the development of a sentiment analysis that extracts a large number of tweets. The result classifies consumers' opinion into negative and positive categories based on their tweets.

Real Time Virtual Human Hand Tracking for Robotic Assisted Surgery using Tele Operation for Pandemic

R. SATHEESHKUMAR^{a,1}, R. ARIVOLI^b

^a*Galgotias College of Engineering and Technology, Greater Noida, India*

^b*Annamalai University, Annamalaiagar, Tamilnadu, India*

Abstract. Robotic assisted surgery is applied in teleoperation with the help of visual feedback. The health care experts or surgeons can handle surgical operations from home or home country itself. The proposed system uses Leap Motion Controller (LMC) for free hand gesture based surgical operation. LMC is used to recognize both human hand gestures simultaneously. The proposed method has two parts: one is a surgeon with an LMC and a computer. Another one is a robotic hand with a surgical instrument. The robotic hand mimics the surgeon's hand gesture moments by remote operation. Robotic arm is exactly controlled by the surgeon in accordance with the visual feedback of the robotic arm.

FSO System Performance under Different Atmospheric Conditions

MOHD SHOAIB^a, MOHD MUNIS^a, HARSH TYAGI^a, RAJNEESH KUMAR SINGH^{a,1}, ATUL KUMAR^a
^aGalgotias College of Engineering and Technology, Greater Noida, India

Abstract. FSO (Free space optical) communication is used to transmit the information from source to the destination with the help of the atmosphere. FSO has many benefits, it offers unlicensed spectrum, high modulation bandwidth, and cheap operational and installation cost. The consequence of environmental circumstances on the FSO communication system is a major drawback. We analyzed the BER (Bit Error Rate) of SIM (Subcarrier Intensity Modulation) scheme for SISO FSO system under weak turbulence using the Gauss-Hermite Quadrature integration approach under various atmospheric conditions (Quantum Limit, Thermal Noise, Background radiation and background with thermal noise) with varying different link ranges in this research paper. It is found that the BER is inversely proportional to the ARI (Average Received Irradiance), whereas Link range is directly proportional to the BER.

House Price Prediction using Machine Learning

AKASH SINGH^{a,1}, UJJIWAL CHAND^a, SHEELENDRA KUMAR^a, SUMAN DEVI^a
^aGalgotias University, Greater Noida, India

Abstract. Technology has boosted the existence of humankind quality of life they live. Every day, we are planning to create something new and different. In this paper, we will try to develop a model which can predict the price of a house in a certain area. In the process of prediction, we will go through various steps like: -Data Preprocessing, Define-error, Splitting the data, Training, Testing, and prediction, etc. Every day lots of people searching for a house but can't be able to find a house with the ideal price. In this case, the right prediction would be very beneficial using some machine learning algorithm. After doing all Process we are ready to Predict the Price of any house in an area and we will also use some historical data set to build a machine learning model using different algorithms. The only aim of this research paper is to predict an ideal price of a house using machine learning models trained on the recorded data set.

Performance Analysis of a Tunable Terahertz Antenna using Different Geometry for IOT Applications

YASH DWIVEDI^a, ADITYA UPADHYAY^a, ANUJ KUMAR GANGWAR^a, ASHISH NIGAM^a, RAJIV KUMAR YADAV^a, SAURABH KATIYAR^{a,1}, R S YADUVANSHI^b
^aGalgotias College of Engineering and Technology, Greater Noida, India
^bNetaji Subhas University of Technology, Delhi, India

Abstract—This cylindrical shaped DRA is compared with rectangular DRA for terahertz applications. We achieved tunability by using graphene disk on cylindrical and rectangular DRA for IOT applications. Actual boundaries of cylindrical shaped DRA and cuboidal shaped DRA with graphene can be reconfigurable to acquire reverberation recurrence at lower range of frequencies and it can be tuned by changing its configuration (in terms of frequency and resonating pattern). Proposed research work gives an approach to analyze cylindrical DRA with graphene for terahertz range having gain

7.57 dBi and the radiation efficiency is 83.4% and rectangular DRA with graphene for terahertz range having gain 7.05 dBi and its radiation effectiveness is reached 74.6 %.

Virtual Desktop Voice Assistant

A. DANIEL^a, MUSKAN^a, MONISH VERMA^a, NAMAN RAJ SHARMA^a

^a*Galgotias University, Greater Noida, India*

Abstract— In this paper we are going to discuss about a unique application which do work very efficiently and this bring a good and awesome experience to the user in this paper we are going to discuss the whole criteria of voice recognition and the concept behind this project we deliver this paper on the basis of lot of studies of paper related to this project and we try to deliver the best and relevant concept which help to create a good and useful application if we see now a days (AI) is in boom no need of any adverting required to be very clear this paper will not contain brief information we will try to gather a lot of information regarding this application and get all things shorted and clear and hope this will help you to improve a project like this in future.

A Regression Analysis of Stock Market Prediction Using Machine Learning Algorithms

A.S MOHAMMED SHARIFF^{a,1}, NIRAJ SHUKLA^a, SUBHAM SANORIYA^a,
NARENDRA YADAV^a, SUDHAKAR MOURYA^a

^a*Galgotias College of Engineering and Technology, Greater Noida, India*

Abstract. Securities exchange or Share market is quite possibly the most confounded and modern approach to work together. Little proprietorships, business companies, banking area, all rely upon this very body to make income and gap chances, an extremely muddled model. Nonetheless, this paper proposes to utilize AI calculation to anticipate the future stock cost for trade by utilizing open-source libraries and previous calculations to help make this capricious configuration of business somewhat more unsurprising. We will perceive how this basic execution will bring adequate outcomes. The result is totally founded on numbers and expects plenty of adages that might possibly continue so as the hour of expectation.

Body Function Module of Power Window Electronic Control Unit

A S MOHAMMED SHARIFF^{a,1}, VAIBHAVI BHARADWAJ^a, PAWANI UPADHYAY^a, TANUSHREE SINGH^a, MOHIT KUMAR^a

^a*Galgotias College of Engineering and Technology, Greater Noida, India*

Abstract Nowadays, with increasing technological advances and innovations the demand for advanced embedded systems is increasing rapidly. Keeping these challenges in mind, our research

paper proposes a model-based technique to design Power Window Electronic Control Unit (ECU). It provides ease of designing, automatic code generation which reduces the cost of designing and conserves the time and effort of the designer. The programming and numeric computing platform MATLAB R2017b and its add-on product Simulink are used for designing systems and subsystems the power window ECU model and further simulation of the models created. Power window ECU provides a mechanism to automate the roll up and roll down the function of the window. This automation is dependent on several factors as mentioned: AC request, Rain, Crash or accident, and Anti-pinch function. In case of system failure or mis happenings like errors, activations of sirens and flashers take place.

Virtual Background for Video Conference using Deep Lab model

KANCHARLA RAMKUMAR^{a,1} P. RAMESH KUMAR^a

^aVelagapudi Ramakrishna Siddhartha Engineering College, India

Abstract. In a video conferencing application, we may have countless highlights like sharing your screen, add individuals you need, Deny individuals as your desire, and visit choices. As of late, you have seen a new choice which is a virtual background this element conceals your experience and makes the new background virtually. The important task in video analytical problems is that to differentiate the foreground and background from the image or frame. To execute this component, we propose another strategy. The proposed framework is separated into 3 phases. The first is finding the background from the video. Secondly, body segmentation which finds the foreground of a frame using a deep lab model. Thirdly, adding a new background in the place of the original background. This proposed framework gives the best outcome, and the complete approach will be clarified in the underneath segments.

Comparative Study of Vedic Multiplier using Different Adders

AMIT GUPTA^a, RANJEET SONI^a, SYED NURUDDIN ASHRAF^a, RAJ VIJAY SINGH NAROLIA^a

^aGalgotias College of Engineering and Technology, Greater Noida, India

Abstract. The rapidly growing technology nowadays has put a greater emphasis on real-time digital signal processing applications to be faster and much more efficient. Achieving faster results in arithmetic is paramount for many real-life processes. Multiplication, being one of the most used arithmetic operations, are utilized in most applications. Throughout the years a great many multipliers have come into being to process applications and data in a faster and more efficient way. Out of all the multipliers, research has proven Vedic Multipliers to be among the fastest and least power consuming multipliers. In the current paper, Vedic Multiplier's speed has been considered and the delay of different adders has also been compared. Vedic Mathematics' Urdhva Tiryakbhyam algorithm has been utilized to improve the speed of the multiplier. Our main objective here is to study

and compare different adders so that we can find the adder with the least delay. The result showed that the Ripple Carry Adder has the least delay as compared to other adders. We have, therefore, implemented a ripple carry adder in our Vedic Multiplier to reduce its delay and thus improve its speed. We have developed and synthesized the results through Verilog HDL and Xilinx ISE.