

2022 IEEE 7th International Conference on Recent Advances and Innovations in Engineering (ICRAIE 2022)

**Mangalore, India
1-3 December 2022**



**IEEE Catalog Number: CFP2237W-POD
ISBN: 978-1-6654-8911-9**

**Copyright © 2022 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP2237W-POD
ISBN (Print-On-Demand):	978-1-6654-8911-9
ISBN (Online):	978-1-6654-8910-2

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

Content		Page No.
a.	About NITK IEEE Student Branch	x
b.	About IEEE Bangalore Section	xi
c.	Message from Chair IEEE MSS	xii
d.	Message from General Chair	xiii
e.	Message from Organizing Chair	xiv
f.	Message from TPC and Publication Chair	xv
g.	Conference Committee	xvi
h.	Technical Program Committee	xx

Sl. No.	Paper Title and Authors	Page No.
TRACK: CSE/IT		
1	Agent Based Queue Aware Scheduling For Distributed Multicore System <i>Dr. G. Muneeswari, Dr. Reeja. S. R</i>	1
2	BDOSN: Privacy-aware Blockchain based Decentralized OSNs <i>Dr. Venkatesh, Nithish Ranjan Gowda</i>	7
3	Speech Summarization Using Prosodic Features and 1-D Convolutional Neural Network <i>Sannidhya Raj Chauhan, Sateeshkumar Ambesange, Shashidhar G. Koolagudi</i>	14
4	Implementation of LBPH Algorithm for Covid Patient Isolation Violation Detection <i>Mrs. Shilpa Patil, Mrs. Kavitha H S</i>	20
5	Chest X-ray pathology detection using Deep Learning and Transfer Learning <i>Priyadarshini A R, Spandana Chereddy, Krithika S, I.R. Oviya</i>	25
6	Deep Crowd Analysis to Spot Social Distancing Violations in Post-COVID19 Lifestyle <i>Dr. A. Suganya, Dr. S.Sankara Narayanan , Dr. A.Nesarani, Dr. R.S. Raghav, Dr. A. Robert Singh</i>	31
7	Crime Forecasting : A Theoretical Approach <i>Deeksha Sree C, Deeksha Nidhi, Anuvarshini S R, Krishna Sowjanya K</i>	37
8	Efficient Energy balance in heterogeneous swarm <i>Ashish Sharma, Harshil Bhatt</i>	42
9	Data Regeneration From Poisoned Datasets <i>Charvi Bannur, Chaitra Bhat, Ishita Bharadwaj, Kushagra Singh, Dr Shrirang Ambaji Kulkarni</i>	47
10	Performance Comparison of Machine Learning Algorithms in Groundwater Potability <i>Elisuba Kuruvilla, Subrahmanya Kundapura</i>	53

11	A Systematic Survey on Various Distributed Denial of Service (DDoS) Attacks in Wireless Sensor Networks (WSN) <i>M. Keerthika, Dr. D. Shanmugapriya</i>	59
12	Mergers and Acquisitions Prediction using Hybrid-Machine Learning and Deep Learning Approach <i>Premanand Ghadekar, Prasanna Akolkar, Divsehaj Anand, Preeti Oswal, Sara Dixit, Naman Chandak</i>	65
13	Epidemic Outbreak Prediction with Ensemble of Deep Learning Models <i>Rakshatha Vasudev, Prathmesh Dahikar, Anshul Jain, Nagamma Patil</i>	71
14	A Comparison of Various Class Balancing and Dimensionality Reduction Techniques on Customer Churn Prediction <i>Sri Phani Bhushan Mada, Nandini Thimmireddygar, Rahul Tata, Sneha Teja Sree Reddy Thondapu, Sumalatha Saleti</i>	77
15	Design and Implementation of Item Based Collaborative Filtering -A Case Study <i>Dr LNS Prakash Goteti</i>	83
16	Sector-wise expert input selection for electricity load forecasting <i>Megha Sharma, Dr. Namita Mittal, Dr. Anukram Mishra, Mr. Arun Gupta</i>	87
17	Facial Expression Recognition Based on Deep Learning-Deep Convolutional Neural Network <i>Aryan Kumar Gupta, Shreyas Khare, Divsehaj Singh Anand, Preeti Oswal, Dheeraj Sharma, Premanand Ghadekar, Joydeep Datta, Gurdeep Singh</i>	93
18	Recommendation System Using Deep learning <i>Gagana Dhananjaya, Raghavendra C K, Lavanya D S, Priyanka Lakur Krishnamurthy, Anika Shreya Pawar</i>	99
19	Malicious Node Identification for DNS Data Using Graph Convolutional Networks <i>Aravind M, Sujadevi V G, Manu R Krishnan, Prem Sankar A U, Soumajit Pal, Anu Vazhayil, Geetapriya Sridharan, Dr. Prabakaran Poornachandran</i>	104
20	MalHate : Hate Speech Detection in Malayalam Regional Language <i>Athira Krishnan R, Prabakaran Poornachandran, Sujadevi V G, Gayathri Rajendran, Vinayak Ks, Vishnu Vijayan, Arjun Ram</i>	110
21	An Efficient Approach for Track Data Simplification in Geographic Information System <i>Dilip Kumar Dalei, Rajesh Kumar, Rakesh KP, Rajesh MA, Narayan P.</i>	116
22	Cyber Security Threats to Cryptocurrency Exchanges <i>Neenu Ann Shaji, Vipin Vasu A V</i>	121
23	Machine Learning Ensemble Model for Flood Susceptibility Mapping <i>Ms. Elisuba Kuruvilla, Dr Subrahmanya Kundapura, Akshay Soman</i>	126

24	Weighted Robinson Compass Gradient and Charbonnier Penalty Function as a Loss Function <i>Rachna U, Dhruv Shindhe S, S N Omkar</i>	132
25	A Review of Big Data Analytics on Post-COVID Health Issues <i>Vinumon Jacob, Prakash M,</i>	138
26	Smart and Portable IoT Drug Dispensing System for Elderly and Disabled Person <i>Prof. S N Panda, Sanjeev Verma, Manish Sharma, Usha Desai, Ashutosh Panda</i>	144
27	Sentiment Rating Prediction using Neural Collaborative filtering <i>Pretty Paul, Rimjhim Padam Singh</i>	148
28	Cybersecurity Risks Quantification in the Internet of Things <i>Mr.D. Sarathkumar, Annamalai Alagappan, Leo John Baptist Andrews, Sampath Kumar V, Raymon Antony Raj</i>	154
29	Cybersecurity Risks Quantification in the Internet of Things <i>Manu Prakash, Akshay S, Manu Prakash, Hrithik Das KT</i>	160
30	Design and Analysis of BFO-PBFO based Optimized Watermarking Algorithm for Medical Images <i>Kumari Suniti Singh, Pushpanjali Singh, Dr. Harsh Vikram Singh</i>	166
31	Online feature Selection using Pearson Correlation Technique <i>Abdul Razak M S, Dr.Nirmala C R, Chetan B B, Dr. Mohammed Rafi, Dr.Sreenivasa B R</i>	172
32	A Statistical Framework for Analysis of Chamber Pressure Spikes in Solid Rocket Motors <i>Mijaz Mukundan, Jishy Samuel, J Suresh Babu, I Sudar, E S Padmakumar</i>	178
33	Rssi Based Pattern Classification In WSN Using Machine Learning <i>Harsha B, Shalini P, Akhil Km</i>	182
34	Fine Food Products Recommender using Sentiment Analysis based on Twitter and Amazon reviews <i>Kshitija Landge, Kshitija Landge, Manswi Dhodi, Kiran Kadam</i>	188
35	An Efficient Feature Selection Scheme for Big Data Based on GOA and LSTM <i>Subhash Kamble, venkataravana Nayaka K, Arunalatha J S, Venugopal K R</i>	194
36	An Improved Hybrid Deep Learning Model for PM2.5 Forecasting <i>Junzi Yang, Ajune Wanis Ismail</i>	200
37	Design of Reliable Fault Tolerant Architecture and Analysis of a Software Defined Network to recover from DDoS Attack <i>Sharath Kumar S, A John Paul, N Sreenath</i>	206
38	A Blockchain Based Patient Consent Management Technique for Electronic Health Record Sharing <i>Varshini Naik K, Vijaya Murari T, Manoj T</i>	214

39	Removal of Reflection and Darkness Caused by Sunglass Occlusion using aPCA <i>Divya A K, Keshaveni N</i>	220
40	Wireless Monitoring of Environmental Parameters for Underground Mining using Internet of Things with LoRa Transceiver Module <i>Anil S Naik, Dr.Sandi Kumar Reddy , Dr.Govinda Raj Mandela</i>	224
41	Modelling and Simulation of Fast Autonomous Exploration and Mapping System for GPS-Denied Unknown Environment Using ROS <i>Siddharth Umakarhikeyan, Ram Kumar K, Priyadharshini S</i>	230
42	Modelling New Crop Disease Indices For Crop Species Classification Using Restructured Convolution Neural Network On Hyperspectral Satellite Images <i>O.Vishali Priya, Dr.R.Sudha</i>	236
43	Machine Learning Based Approach for Traffic Rule Violation Detection <i>Prof. Kruti Lavingia, Mr. Mihirsinh Vaja, Prof. Pooja Chaturvedi, Prof. Ami Lavingia</i>	244
44	Analysis of Secure EHR Storage Methods on Blockchain and Integrating ML to Predict Chronic Kidney Disease <i>Gayathri Hegde M, Shrishti Bekal M, Srinidhi S Prasad, P Deepa Shenoy, Venugopal K R</i>	250
45	Contrasting Parallelized with Sequential Sorting <i>Anurag Dutta, Manjari Saha</i>	256
46	PCOS perception analysis prediction using machine learning algorithms <i>Harinee V S, Shivayavashilaxmipriya S, Sakthipriya Dhinakaran, Chandrakumar T</i>	260
47	Target selection in handheld Augmented Reality for distant and occluded object <i>Nur Ameerah Abdul Halim, Nur Ameerah Abdul Halim, Ajune Wanis Ismail</i>	266
48	A Role Of Link Analysis in Social Networking: A Survey <i>Pooja Mithoo, Dr. Manoj Kumar</i>	272
49	Semantic Segmentation on Martian Terrain for Navigation using Transformers <i>Gagan Goutham, Hita Juneja, Ankitha C, V R Badri Prasad</i>	276
50	Hybrid Transfer Learning Approach using Multiple Pre-trained Models for Classification of Outdoor Images into AQI Classes <i>Anju S Mohan, Dr. Lizy Abraham</i>	283
51	Exploiting Graph Matrix Duality for Efficient Graph Data Processing <i>Aadharsh Aadhithya A, Vinith Rejathalal , Soman K.P, Prabhakaran Poornachandran</i>	289
52	Earthquake Magnitude Prediction in Chile Using Neural Network <i>Sonu Devi, Rohit K Bharadwaj , Dr. Sumanta Pasari</i>	294

53	Communication Architecture for Autonomous Aerial Traffic Management <i>Shobuj Paul, Shuvrangshu Jana, Onkar Chopra, Ashwini Ratnoo, Debasish Ghose</i>	298
54	Offline Signature Verification Using CNN and SVM Classifier <i>Wincy Abraham, Dr.B H Shekar, Dr.Bharathi Pilar</i>	304
55	Analysis and Visualization of Eye movements in Patients with Glaucoma <i>Sandhiya . B, Amudha . J, Sajitha Krishnan</i>	308
56	A Machine Learning Framework For Classification of Expert and Non-Expert Radiologists <i>Aiswariya Milan K, Dr.Amudha J, Shamyuktha R S</i>	314
57	Application of Window Sliding ARIMA n Wind Speed and Solar Irradiance Forecasting <i>Sarita, Sumanta Pasari, Sakshi Shukla</i>	321
58	Forecasting Air Quality Index based on Stacked LSTM <i>Prof.A.Anitha, Tishya Manna</i>	326
59	Particle swarm optimizer based epithelial layer segmentation in CIElab color space <i>Swarnajit Ray, Dr. Krishna Gopal Dhal, Dr. Prabir Kumar Naskar</i>	331
60	Decentralized Digital Identity Wallet using Principles of Self- Sovereign Identity Applied to Blockchain <i>Sanjay M, Dr. Sampath S, Numan Ahmed, Adi Bhagavath, Nanjesh B R</i>	337
61	Atrium Segmentation Using Machine Learning <i>Yash Soni, Srinivas Jangirala</i>	342
62	Predicting Survival of People With Heart Failure Using Oversampling, Feature Selections and Dimensionality Reduction <i>Annam Indhu Lekha, Gunukula Niharika, Leela Akshaya, Anand Kumar M</i>	347

TRACK: ECE		
63	A Bert Model For SMS And Twitter Spam Ham Classification And Comparative Study Of Machine Learning And Deep Learning Techniques <i>Mrs Chaitra B L, Dr Sarika S Raga</i>	355
64	Landscape Spatial Pattern Analysis for Nilgiris District <i>Pravin Annamalai A, Pranav Vighnesh S, Aswinth B, Midhun LN, Geetha P, Ramakrishnan R</i>	360
65	Development of Fast Charging Control Algorithm for Electric Vehicles <i>Abhishek Yadav, Poornesh Kumar Koorata, B.Dastagiri Reddy</i>	367
66	Compact Sized High Gain and Ultra-Wideband HMSIW cavity backed Slot Antenna for Ku-band Applications <i>Narayanarao Puli, Madhusudhan Goud, Krishnamoorthy Kandasamy</i>	373
67	Design and Implementation of Reconfigurable Neural Network Accelerator <i>M Sudarshan Shenoy, Ramesh Kini M</i>	377
68	SAR Imaging with Automotive Radar: Range Migration Algorithm, Experiment, and Future Directions in Automotive Vehicle <i>Vandana G S, Sriharsha Nag T S, Bethi Pardhasaradhi, Pathipati Srihari</i>	382
69	Fiber Bragg Grating Based Goniometer for Joint Kinematics Evaluation <i>Asha Prasad, Shweta Pant, Sharath Umesh, Sundarrajan Asokan</i>	388
70	Optimized Routing Scheme in Software Defined Networking for Internet of Things & Comparisons Thereof <i>Dr Suresh S Rao, Dr V Lakshmi Narasimhan</i>	394
71	A 160 Gbps free-space optics transmission enabled by DP-256-QAM and DSP algorithms <i>Mehtab Singh, Iqbal Singh</i>	402
72	Design and implementation of IoT enabled ultraviolet C(UVC) irradiation-based sanitizer system for public transport with remote monitoring <i>Khushi Singh, Sumit Kumar Jindal</i>	407
73	Performance analysis of classification of handwritten Devanagari digits using new augmentation technique of squared patterns and DCNN model <i>Snehal Sunil Gaikwad, Sanjay L. Nalbalwar, Anil B. Nandgaonkar</i>	412
TRACK: EE		
74	comparative analysis of electric and hybrid vehicle <i>Abhishek Kathariya, Ranjit kumar bindal</i>	417

75	Do-it-Yourself Linear DC Variable Power Supply with Digital Electronic Controller for High Precision Regulated Supply <i>Rahul Santhosh, K Gowtham, V.Shailaja</i>	423
76	High-Frequency Transformer design for a Bi-directional isolated DC-DC converter for Electric Vehicles <i>Deepak S, S R Mohanrajan</i>	428
77	Wide Area Based Online Transient Stability Prediction Using Regression Model <i>Chandrashekhar P K, Dr. S G Srivani</i>	433
78	An extensive critique on transformer oil reclamation techniques <i>Mr. D. Sarathkumar, Srinivasan M, Raymon Antony Raj</i>	438
79	Metaheuristic Based MPPT Control for Solar PV Systems under Partial Shading Conditions <i>K Deepak, Anu G Kumar</i>	444
80	Techno Economic Analysis of Solar Hybrid System for Residential Sector <i>Laxmi Gopalakrishnan, Aarthi N, Mohanrajan SR</i>	450
81	Optimal Sizing of Rural Microgrid using HOMER Pro Software <i>Yazhini K, Aarthi N</i>	455
82	Donkey and Smuggler Optimization Algorithm-based Degree of Freedom Controller for Stability of Two Area Power System with AC-DC Links <i>CH. Naga sai kalyan, B.Srikanth Goud, H.Kishan, Punyavathi Ramineni, B.Praveen Kumar, T.Anil Kumar.</i>	461
83	Proposed Solar PV System in Educational Campus in Faridabad, India <i>Amit Atri, Anita khosla</i>	467
84	Development of Fault Detection Method in Cable Using Arduino UNO <i>Dr. Bansilal Bairwa, Sagar Rathor, Udaykumar R Yaragatti, Manohar KA</i>	472
85	A Single-Module Single-Inductor Multi Input Multi Output Universal Converter for Microgrid and EV Charging Applications <i>Tuhinanshu Mishra, RK Singh</i>	477
86	An Optimized Twelve Sector Space Vector Pulse Width Modulation control of PMSM Drive <i>Berhanu Deggefa lemma, Srinivasan Paradabane</i>	483
87	Effect of Primary VSC-HVDC Controls on the Performance of Ancillary Frequency Control Strategies <i>Rashmi, Dattatraya N. Gaonkar</i>	487

88	A Comparative Study of De-convolution Methods For Charge Signal Estimation in PEA System <i>Dr. Ashish Gupta, C. Chakradhar Reddy</i>	494
89	Investigation on Impact of Fast Moving Cumulus Clouds on Power Quality in Deregulated Powergrid with Large Scale Solar Integration <i>Najda V M, Dr. Gopakumar P, Dr. Sunitha R</i>	500
90	Utilizing Balanced and Unbalanced Partial Techniques in Co-Phase V/v Railway System for Improving Hybrid SVC Power Quality Conditioner <i>Mohammad Habibolahzadeh, Alireza Jalilian</i>	506
91	Prospects of NFMD for Power System Frequency and Amplitude Estimation <i>Aadharsh Aadhithya A, Neethu Mohan, Sachin Kumar S, Soman K.P, Prabhakaran Poornachandran</i>	512