

# **2023 3rd International Conference on Advances in Computing, Communication, Embedded and Secure Systems (ACCESS 2023)**

**Kalady, Ernakulam, India  
18-20 May 2023**



**IEEE Catalog Number: CFP23Z21-POD  
ISBN: 979-8-3503-4617-6**

**Copyright © 2023 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:	CFP23Z21-POD
ISBN (Print-On-Demand):	979-8-3503-4617-6
ISBN (Online):	979-8-3503-4616-9

**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](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

## TABLE OF CONTENTS

SI No.	Paper ID	Title & Authors	Page No.
1	1055	A Low Power, Low Range, Portable Wireless Nurse Call System Muhammad EV, Neethu Suman and Bobby Mathew C	1
2	9130	Incentive Mechanism for Mobile Crowd Sensing using Reverse Auction Dynamic Pricing and Recent History Jowa Yangchin and Ningrinla Marchang	6
3	9969	MpQUAD: Multipath Quad TCP Congestion Control in FANET Neethu Subash, B Nithya, Vipul Patel and Rahul Bangar	12
4	3143	Dynamic Data rate prediction based on congestion severity in wireless body area networks Vamsikiran Mekathoti, B Nithya, Bhuvana Chandra P and Subasri S	19
5	1350	Gain Enhanced X-Band Antenna using Novel Metasurface Abhirami S, Vishnu D and Dr. Shahul Hameed T A	27
6	3507	A Hybrid Machine Learning Approach to Anomaly Detection in Industrial IoT Jayesh T P, Pandiaraj K, Arya Paul, Ranjeesh R Chandran and Prasanth P Menon	32
7	6222	Enhancement of Energy Efficiency Using Improved Energy Efficient Routing Protocol in Wireless Sensor Networks for IOT Applications J. Sravanthi, B.V. Subbayamma, Waseem Sultana, Sriram Parabrahmachari, V. Gokula Krishnan and Yadavalli S S Sriramam	37
8	5726	Modeling of high speed ISL link in Satellite Communication Meet Kumari	41
9	7314	A Simple low profile polarisation rotation reflective surface for RCS reduction of patch antenna Indhu KK, Abhilash AP, Anilkumar R and Aanandan CK	45

10	7900	H-Slot Coupled Antenna Design for IOT Applications Nune Divya, P V Raman, K Haripriya, K Vijay Kumar, K Lasya and K Govardhan Sai	52
11	7677	Development of an Innovative Optimal Route Selection Model Based On Improved Multi-Objective Genetic Algorithm (IMOGA) Method in IOT Healthcare Jeejo Kp and Dr. Bobby Mathews C	58
12	1354	Congestion aware optimal data rate selection for efficient routing in wireless rechargeable sensor network Siron Anita Susan T, Nithya B, Abdulla Ameen and Sarvesh Rajkumar	63
13	3972	An Enhanced Image Loading Framework for Social Media Applications Siji Rani, Lekshmi S Nair and Vaisakh M S	71
14	5977	Experimental study of a novel technique of data hiding with high PSNR Ababil Naghiyeva, Sakit Verdiyev and Ajay Kumar	77
15	2382	Image Encryption Through Aperiodic Josephus Permutation and Novel Cyclic Shift Operation Asha J Vithayathil and A Sreekumar	81
16	5852	Tomato Plant Health Management Using AI Aswathy N, Jaimy James, Abhijith Surendran and Samuel Sabu Thomas	89
17	6350	An optimised Faster R-CNN model for Cassava Brown Streak Disease Classification Rajasree R, C. Beulah Christalin Latha, Sujni Paul, Appu M and Aswathy N	94
18	999	Assessing the Effect of Pre-processing Techniques on Classification of Breast Cancer using Histopathological Images Diwaker, Kriti and Jyoti Rawat	101
19	3511	Block Chain ID: Block Chain based digital ID and Authentication system for privacy improvement	106

		Tejaas Solanki, Kundan Patel, Swanand Pande and Anant Nimkar	
20	8540	ArmVision: An Approach to Improve Police Officers Response Times to Gun Violence and Put a Stop to Armed Crimes Before They Occur Vinay Venkatesh	113
21	182	Parasitical Disease Prediction Model – A Deep Learning Based Approach S P Sreeja, V Asha, Binju Saju, Pooja Yadav S and Prabhu Chodnekar Sammit Prashant	117
22	332	Malayalam Hand written Character recognition using Transfer Learning and Fine Tuning of Deep Learning Convolutional Nueral Networks P V Pearlsy and Deepa Sankar	125
23	4276	Comparitive Analysis of Deep Learning Techniques for Assistive Soft Wearable Robots Ranjeesh R Chandran, V Yogeshwar Chakrapani, Sreedeeep Krishnan, D Ganeshaperumal Dharmaraj and Albins Paul	130
24	2558	Deep Reinforcement Learning (DRL) based data analytics framework for Edge based IoT devices latency and resource optimization Majjari Sudhakar, Dr. Anne Kotteswara Rao and Joseph George	137
25	9084	Analysis and Forecasting of COVID-19 Pandemic using ARIMA Model Soni Singh, Sonam Mittal and Sunaina Singh	143
26	6071	Investigation on impact of Attention Mechanism in Deep Learning Models for Temperature prediction Naba Krushna Sabat, Umesh Chandra Pati and Santos Kumar Das	149
27	8882	Pandemic Outbreak Prediction Using Machine Learning Model Soni Singh and Sonam Mittal	154
28	2667	Phishing Email Detection Using Machine Learning and Deep Learning	160

		Nishant Paradkar	
29	5889	<a href="#">High Performance EDA and LDA Analysis: An Application for Wheat Yield Estimation</a> Deepak Kumar, Yash Kumar, Vinay Kukreja, Ankit Bansal and Abhishek Bhattacharjee	163
30	7856	<a href="#">Implementation of Deep Learning Technique for Citrus Leaf Blotch Diseases Severity Detection</a> Nutika Kumar, Rishabh Sharma, Vinay Kukreja, Prince Sood and Ankit Bansal	168
31	2310	<a href="#">Classifying the severity of Apple Black Rot Disease with Deep Learning: A Dual CNN and LSTM approach</a> Rishabh Sharma, Vinay Kukreja, Prince Sood and Abhishek Bhattacharjee	173
32	8847	<a href="#">Implementation of Efficient Digit Recurrence Class of Division Algorithms</a> N Neelima, Aruru Sai Kumar, A. Jayanth, K. Krishna Mahitha and A. Dilip Kumar Reddy	178
33	4003	<a href="#">Comparison of Machine Learning Techniques for Sentiment Analysis</a> Shashank Mishra, Mukul Aggarwal, Shivam Yadav and Yashika Sharma	184
34	1906	<a href="#">Duplicate Quora Questions Pair Detection Using Siamese Bert and Malstm</a> Gutti Venkata Ranga Priyanka, Tadipathri Anuradha and Malladi Nikitha	192
35	803	<a href="#">Exploratory Data Analysis and Customer Churn Prediction for Telecommunication Industry</a> Kiran Deep Singh, Prabhdeep Singh, Ankit Bansal, Gaganpreet Kaur, Vikas Khullar and Vikas Tripathi	197
36	4231	<a href="#">Reinforcement Learning based Energy Management System for Hybrid Electric Vehicles: A review</a> Vishnu Narayanan A, Dr.Rubell Marion Lincy G and Parvathy Gopakumar	202
37	9578	<a href="#">Exploring Methods of dealing with Class Imbalances in Supervised Machine Learning Structured Datasets</a>	209

		Vikas Khullar, Mohit Angurala, Kiran Deep Singh, P Prasant, Varinder Pabbi and Veeramanickam M.R.M	
38	7917	Hybrid Model for Sentiment Analysis of Whatsapp Data Royal Kaushal and Raman Chadha	215
39	1017	Protecting Contactless Credit card payments from Fraud through Ambient Authentication and Machine Learning Divneet Singh	221
40	6013	Soteria: A Blockchain Assisted Lightweight and Efficient Certificateless Handover Authentication Mechanism for VANET Sreelakshmi Anilkumar and Jassim Rafeek	226
41	5218	Investigations on design and simulation of smart irrigation robot for Nurseries Swati Jha, B. Abhiram, Yogendra Sai Prasad, Joshuva Arockia Dhanraj and V Ramkumar	233
42	8598	Multi-channel Compact DAQ system with inbuilt Time- to-Digital Converters Hari Prasad Kolla, Vinay Bhaskar Chandratre, Menka Sukhwani and Ravindra R Shinde	238
43	641	Device Analysis of Vertically Stacked GAA Nanosheet FET at Advanced Technology Node Aruru Sai Kumar, Deekshana M, V. Bharath Sreenivasulu, N. Aruna Kumari and G Shanthi	245
44	8975	A Novel Approach to Auto Dipping System of Vehicles Based on LiDAR Shiv Kumar, Vikash Kumar Garg, Ankit Bansal and Kiran Deep Singh	251
45	4943	An Efficient and High-Speed FIR Filter using BEC with MUX Technique Shanthi Ghanta, Aruru Sai Kumar, Md Masood Hasan, H. Tanuja and Yashwanth CH	256
46	2570	New All-Optical Shift Register using Nonlinear Structure Sushanta Mahanty, Ajay Kumar, Rakesh Choudhary, Amit Prakash, Ajay Yadav and Raj Ranjan	263

47	7311	An EEG based Brain-Computer Interface for guiding mobile robots Kamal Saluja, Sunil Gupta, Vikas Solanki, Sanjoy Kumar Deobnath and Ankit Bansal	268
48	3973	Design and Implementation of 1KB SRAM array in 45nm Technology for Low power applications Aruru Sai Kumar, K Nishanth Rao, A. Sujith, T. Dhanuja and M. Venkata Sai Vinay	274
49	161	Design and Implementation of Full Adder using 4 to 1 line Multiplexer Based on Nonlinear Switching Micro Ring Resonator Structure. Sushanta Mahanty, Ajay Kumar, Ujjwal Sharma, Shalini Kumari, Sujan Adhikary and Kumari Amrita Pritam	280
50	5441	Visual Gesture based Home Automation Biya Kurian, Jerom Regi, Dennis John, Hari P and Therese Yamuna Mahesh	286
51	8345	Parallel model to detect attacks using evolutionary based techniques Sunitha Guruprasad	291
52	1311	Integrated Intelligent Surveillance System Using Deep Learning Sona Paul, Manikandan A.R, Arya Paul, Katharin P Jose and Sabarinath M.S	297
53	4288	Energy Harvesting based Electromyography analysis for muscle activity Pooja Sidharthan and Dr S Swapna Kumar	304
54	6580	A Wireless Multifunctional Structural Health Monitoring System Anagha Prabhakaran and Dr. Swapna Kumar S	310
55	6740	Brain Tumour Classification Using MRI Image- A Survey Subha Thomas and Dr.Sudarmani Rajgopal	317
56	6109	Heart Disease Prediction System using Machine Learning Model	323



		Praveen Singh Tomar, Dr Kalpana Rai and Dr Mohd Zuber Khan	
57	6906	A review on current Technological Advancements in Prosthesis Arms Swati Jha, Devika Ghadage, Rutu Bagde, Mohini Dhadi and Chaitali Barhate	328
58	6271	Automatic Segmentation and classification of liver tumour using deep learning algorithms Aparna P R and Libish T M	334
59	4300	Tumour region detection in MR brain images using MFCM based segmentation and Self Accommodative JAYA based optimisation Senthil kumar Natarajan, Vishnuvarthanan Govindaraj, Pallikonda Rajasekaran Murugan and Yudong Zhang Zhang	340
60	888	Breast Cancer Image Classification Using Deep Learning Methods Clenitta Joseph M, Bipin P R, Bobby Mathew C, VAnoop and Prajeesh P A	346
61	4085	Skin Cancer Classification from Skin Lesion Images Using Modified Depthwise Convolution Neural Network Joseph George, Anne Kotteswara Rao, Bipin P. R, Majjari Sudhakar	350
62	9835	Dual Band Metamaterial Absorber for S and C band Applications Athul Parameswaran and Rahul Manohar O	358