

2023 International Conference on Recent Advances in Electrical, Electronics, Ubiquitous Communication, and Computational Intelligence (RAEEUCCI 2023)

**Chennai, India
19 – 21 April 2023**



**IEEE Catalog Number: CFP23DR8-POD
ISBN: 979-8-3503-3743-3**

**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:	CFP23DR8-POD
ISBN (Print-On-Demand):	979-8-3503-3743-3
ISBN (Online):	979-8-3503-3742-6

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

TABLE OF CONTENTS

A Novel Approach to Multi-Disease Detection in Healthcare Using CNN, Random Forest & XGBoost.....	1
<i>Mubarizuddin Mohammed, Rajat Mongia, M. Anand</i>	
Content Recommendation Based on Recognized Emotion	6
<i>Sireesha Challa, Manohari V. Gowri, M. S. Roobini, P. Nandhini, C. A. Daphne Desona Clemency</i>	
Smart Waste Segregation and Collection System with IoT-Enabled Monitoring and Analytics	12
<i>Subhash B. Suthar, R. Chithra, G. K. Abhinaya, Haritha Harikumar</i>	
Study of Low Power Techniques in Analog Circuit and Its Application to Design Second Generation Current Conveyors and Voltage Amplifiers	18
<i>S. K. Dash, A. Bakshi, J. R. Panda, S. N. Mishra</i>	
Automatic Traffic Sign Board Detection from Camera Images Using Deep Learning and Binarization Search Algorithm	24
<i>A. Ashwini, K. E. Purushothaman, Banu P. Prathaban, M. Jenath, R. Prasanna</i>	
De-Noising of Impaired Speech Signal Using Optimized Adaptive Filtering Configuration.....	28
<i>Gnana A. S. P. Korrapati, Atharva Rane, Biswayan Roy, S. Hannah Pauline, Samiappan Dhanalakshmi</i>	
Task Based Approach for Smart Secure Data Transmission Using TinyOS RTOS	33
<i>R. Seetharaman, S. Gayathri, M. V. Tejendra Prasad, H. Tamil Selvan, S. Peruvazhuthi, C. Jayakumar, A. Sivanantham</i>	
Design of Planar Antenna for UWB Communication	38
<i>Sriram Arumugam, Sangeetha Manoharan</i>	
A Miniaturized Dual Narrow-Band Bandpass Filter Using a Hairpin Resonator and Coupled Lines	41
<i>Earla Shankar, Kanaparthi V. P. Kumar, Vamsi K. Velidi</i>	
Design and Analysis of Dielectric Materials on Gate All Around Tunnel Field Effect Transistor	45
<i>Nithin N. Kumar, Ajay S. Bale, S. Jayanth, Kotapothula A. Kumar, Karthik Shivakumar, Kotha V. H. Raghavendra</i>	
Detection and Prevention of Distributed Denial of Service in Mobile ADHOC Network	51
<i>Ankush Sadhu, S. Praveen Kumar, Sudiksha Ojha, Zeeshan Qureshi</i>	
Performance Comparison of Deep Learning Techniques for Classification of Fruits as Fresh and Rotten	57
<i>J. N. V. D. Tanuia Nerella, Vamsi K. Nippulapalli, Srivani Nancharla, Lakshmi P. Vellanki, Pallikonda S. Suhasini</i>	
Image Classification by Transfer Learning Using Pre-Trained CNN Models	62
<i>Jaya H. Dewan, Rik Das, Sudeep D. Thepade, Harsh Jadhav, Nishant Narsale, Ajinkya Mhasawade, Sinu Nambiar</i>	
Parkinson Disease Detection Using Feed Forward Neural Networks	68
<i>N/A</i>	

Object Detection and Recognition for Visually Impaired Using Cross-Stage-Partial Network Algorithms.....	73
<i>Satyaki Mukherjee, Tanya Sharma, Anshika Singh, Samiappan Dhanalakshmi</i>	
Design of Modular Robots and Reconfiguration Exercises Using Lego Bricks.....	78
<i>Madhavan Shanmugavel, Ang C. Yik</i>	
RF and Computer Vision Based Warning System for Minimizing Road Accidents.....	84
<i>Snehil, S. Praveen Kumar, Atanu Wadhwa</i>	
ANFIS-Based Multilayered Algorithm for Botnet Detection.....	89
<i>T. Thamaraimalan, C. Venkatesan, M. Ramkumar, A. Sivaramakrishnan, M. Marimuthu</i>	
Lung Cancer Detection Using Classification Algorithm	94
<i>P. Chitra, K. Srilatha, F. V. Jayasudha, P. Brindha, K. Vijaya, S. Sneha</i>	
Enhancement the Efficiency of Thin AlGaAs Based Multi-Junction Silicon Solar Cells Through Doping and Thickness Profile Optimization	101
<i>Arijit B. Roy, Robin Powell, V. Sabari Vasan, G. Anirudh Srikanth</i>	
Implementation of Solar Based Multipurpose Agriculture Robot Using Random Forest Algorithm	107
<i>M. Jyotshna, K. Gopavanitha, M. Kusuma, K. Gopi Krishna, K. Sailu</i>	
An Innovative Image Cryptosystem Sequences Based on Biological Protein.....	112
<i>Abhilash Kayyidavazhiyi, Mario Silic</i>	
Design of LLC Resonant Converter Using Closed Loop PI Controller for Enhanced Performance.....	122
<i>H. S. Sridhar, Sagnik Kundu</i>	
Avoiding Road Accidents During Extreme Fog Conditions	126
<i>Shubham Keshari, Pavan Thulasiraman, C. Gokul, M. S. Vasanthi</i>	
Real Time Shot Boundary Detection in Live 360 Degree VR Streaming Using Deep Learning	131
<i>Kethsy Prabavathy, Narapareddygari S. S. Reddy, Chamarti H. Kumar, Kambam Sanjayratnam, Mokara Bharath</i>	
Classification of Mpox Images Using Transfer Learning on Lightweight Models.....	136
<i>Weeriya Supanich, Suwanee Kulkarineetham, Wiroj Tamboonlertchai, Tanapat Suato</i>	
An MATLAB Framework for Music Signal Emotion Analysis and Recognition	141
<i>K. Sumathi, Pasupuleti B. Lakshmidevi, V. Sindhuja, M. Nivetha</i>	
Court Ledger-Decentralized and Tamper-Proof Solution for Storing Evidence	146
<i>Christinal J. Benitha, Kumar T. Tharun, Y. Yogesh, V. Hemnath</i>	
Performance Enhancement of GaAs and InP Based Multi-Junction Silicon Solar Cells Using Thickness and Doping Profile Optimization	154
<i>Arijit B. Roy, Mandla Mounika, Roshika Kathi, N. Sai Vishal</i>	
Five Stage Pipelined MIPS Processor Verification Sequence Module Using UVM	160
<i>N. Bhuvaneswary, Mandhala Jaswanth, Medisetty Eswar, Rali Rajamouli, Gurka V. D. Reddy</i>	
A Robust and Fast Symmetric Text Encryption Algorithm Based on Fermat's Two Squares Theorem	166
<i>M. Ranjith Kumar, R. Mani, P. Revathi, S. Sabarinathan, Vediappan Govindan</i>	

Triple Stub Enclosed CPW Fed Patch Antenna for Wi-Fi/ISM/Bluetooth and V2X Auto-Motive Communication	171
<i>Manne Galeeb, K. Swetha, K. S. P. Durga, K. Manisri, L. Narasimha Naidu, M. Venkateswararao</i>	
Cyclone Intensity Estimation Using Infrared Satellite Imagery	175
<i>J. Rakesh, G. Niranjana</i>	
Optimal Design of Time-Modulated Linear and Circular Antenna Array for Feed Network Efficiency Using PSO.....	180
<i>Satish Kumar, Gopi Ram, Durbadal Mandal, Rajib Kar</i>	
Air Quality Index (AQI) Prediction Using Automated Machine Learning with TPOT-ANN	185
<i>Meghna Sharma, Eishita Gupta, D. Viji</i>	
A Design Methodology for Optimization of Printed Antenna Based on AI-Driven SADEA Technique	194
<i>G. Prasanth Reddy, G. Manoj, V. P. C. Rao, Bikash R. Behera</i>	
Smart Solar Tracking System for Optimal Power Generation Using Three LDR's	198
<i>Shamanth Guduru, Preetham Ch, Puneeth M. Akhil, K. Vijayan</i>	
Sleep Apnea Detection from Single-Lead ECG a Comprehensive Analysis of Machine Learning and Deep Learning Algorithms.....	203
<i>Mohan S. Aswanth, Punnam Akash, M. Ranjani</i>	
Constant-k Filter Design of Reconfigurable Filtering UWB Antenna.....	208
<i>Bhakkiyalakshmi Ramakrishnan, Vasanthi M. Sivashanmugham</i>	
Improving Data Integrity with Reversible Logic-Based Error Detection and Correction Module on AHB-APB Bridge.....	211
<i>Sai A. Edidi, Rajeev Marada, Tauheed A. Khan, E. Chitra</i>	
Performance Analysis of Top-Hat Transform in the NIR Spectrum	220
<i>Bevi A. Ruhan, S. Malarvizhi, P. Eswaran, M. Priyatharshini</i>	
Quality Analysis of Tomato for Ketchup Manufacturing Industry Using Deep Learning	225
<i>S. Manjubargavi, J. Subhashini</i>	
Performance Metrics of an Efficient Compressor for Digital Circuits	230
<i>Purushotham V. Deekshitha, N. Mathan, Mary S. Sanju</i>	
Analysis of Spectrum Sensing in Cognitive Radio Networks Using Generalized Orthogonal Matching Pursuit	235
<i>Aravindan Madhavan, Yamuna Govindarajan</i>	
Machine Learning-Based Epileptic Seizure Detection Using XGboost Algorithm	239
<i>R. B. Benazir, D. Bathri, V. Charavanan, Kumar R. Ganesh</i>	
Virtual Circuit Based Ornithopter UAV Simulation for Intruder Detection System.....	244
<i>Sree Vardhan, C. Rupa, K. Rakesh</i>	
Simulation Study of a Miniaturized UWB Antenna Loaded with FSS Reflector for Breast Tumor Detection	249
<i>Priyanka Grover, Hari S. Singh, Sanjay K. Sahu</i>	

An Enhanced Image Colorization Using Modified Generative Adversarial Networks with Pix2Pix Method	254
<i>Nikhil Kumarsingh, Nilay Laddha, Joseph James</i>	
State of Charge Estimation and Analysis for an Electric Vehicle	262
<i>T. V. Sasank, Kaki B. Akash, I. Savan Siddharth, M. Susila</i>	
An Ensemble Machine Learning Algorithm to Diagnose Alzheimer's Disease.....	268
<i>R. B. Benazir, M. Palanivelan, S. Preethi</i>	
Multi-Objective Optimization for Optimal Design of CMOS Ring Oscillator.....	274
<i>Rajalaxmi Das, B. P. De, S. K. Dash, P. K. Samanta, W. Bhowmik, Rajib Kar, Durbadal Mandal</i>	
Design of Three-Valued Logic Half-Subtractor Using GNRFET.....	278
<i>P. Venkatramana, P. Nagarajan, Shaik J. Basha</i>	
An Automated Neural Network Approach for Predicting Paddy Leaf Diseases and Autopumping of Fertilizer Along with IoT	283
<i>T. Kesavan, K. B. Kesav, Puram B. S. Srinivas, J. Selvakumar</i>	
An Automated and Fine- Tuned Image Detection and Classification System for Plant Leaf Diseases	288
<i>Shoibam Amritraj, Nitish Hans, C. P. D. Cyril</i>	
Innovative Waste Management Solutions for Smart Cities Using IoT & NodeMCU	293
<i>Suresh V. Kumar, Rethanya K. Sree, S. Shameer Hussain, S. Siva Sankar, E. Sriram</i>	
Iot Enabled Intersatellite Communication Using Lora and TinyGS	298
<i>Sriram K. Kumar, K. Vadivukkarasi</i>	
Accent Conversion Using Neural Style Transfer.....	303
<i>Josephine S. Jeyenathan, Chowdam Prasanth, Chirala C. L. Prasad, Kota S. Krishna, M. Ulaganathan</i>	
5G UE Simulation	308
<i>G. Elavel Visuvanathan, R. Dayana, Sriram Krishnamurthy, Abhinav Sarma</i>	
Vehicle Information Storage Container with Video Recovering.....	313
<i>S. Yuvaraj, G. Yokesh, S. Lalith Kishore, D. Manoj Kumar</i>	
A Two Level Model of Energy Market Considering Incentive Based Demand Response	318
<i>Sheikh S. Gul, D. Suchitra</i>	
Detecting Handwritten Digits Using Fully Connected Artificial Neural Network in FPGA Which Will Act Like a Replacement for GPU	323
<i>Ruchi Sinha, Shubham K. Gupta, Prithiviraj Rajalingam, Somyaranjan Routray</i>	
Detection of Pemphigus Using Machine Learning.....	328
<i>Sanjivani Dubey, C. P. D. Cyril</i>	
Music Recommendation System Using Real Time Parameters.....	334
<i>Shivam Dawar, Soumitra Chatterjee, Mohammed F. Hossain, S. Malarvizhi</i>	
RAEEUCCI2023-Comparative Study of Hate Speech Detection Using Different Machine Learning Classifiers	340
<i>Babita Sonare, Jaya Dewan, Anuja Jadhav, Anvita Bamboriya, Mansi Gaikwad, Gayatri Kokare</i>	

An Effective Body Posture Management System Using Novel Intelligent Crutch Tool Mechanism.....	345
<i>B. Padmavathi, Sreeramsetty L. Y. Sahithi, V. S. Sudarshan, Kurra N. Nandini</i>	
Detection and Classification of Leukemia Using Artificial Intelligence	351
<i>Chekuri S. Vomanesh, Medisetti V. S. Chaitanya, Sadala Sumanth, Ramya Arumugam</i>	
Predicting Renal Disease and Enhancing Health Through a Routine Tracker.....	357
<i>Sriram Rajendran, Tanvi Thakur, Sanya Kapoor, S. Malarvizhi</i>	
Network Traffic Prediction for 5G Network.....	361
<i>Appecherla G. Reddy, Sougata Sinha, Pothula A. Reddy, C. Vimala</i>	
MRI Segmentation of Human Brain for Diagnosis of ADHD.....	366
<i>R. Priyanka, Ramakrishna Komarina, P. Aruna Priya, K. Usha Rupni</i>	
Design and Optimization of an On-Chip Artificial Neural Network on FPGA for Recognizing Handwritten Digits	373
<i>Rohit R. Kumbhar, P. Radhika, Durga Mane</i>	
Detection and Analysis of Fluorescent Nanoparticles Using an <i>In-House</i> Built Spectrofluorometer	378
<i>P. Priyanka, Ashwin K. Narasimhan, M. Sameera Fathimal, S. P. Angeline Kirubha</i>	
Implementation of 3-Bit Asynchronous Binary Up-Down Counter Using Electro-Optic Effect Based Mach-Zehnder Interferometers	384
<i>Ajay Yadav, Aiay Kumar, Amit Prakash, Sushanta Mahanty, Rakesh Choudhary, Raj R. Singh</i>	
Application of Blockchain and IoT in Cap and Trade of Carbon Emissions.....	388
<i>Harine Thirunavukkarasu, Karishma Rajendran, Koushika Dinesh, S. Gunasekaran</i>	
An Optimal Circular and Concentric Circular Antenna Array Design Using a Meta-Heuristic Optimization.....	393
<i>Rajrup Saha, Avishek Das, Durbadal Mandal, Rajib Kar</i>	
Design of Two Element Array Microstrip Patch Antenna for Wi-Max Applications	399
<i>Yoga H. Parakoti, Sai L. P. Jallipalli, Aslesh S. Y. Krishna, A. Jhansi Rani</i>	
An IoT-Based Duplex Mode Remote Health Monitoring System.....	404
<i>Phani K. Polasi, S. Aishwarya, P. Kruthika, Mohammed K. Momin</i>	
Analysis of CP Characteristics by Gain-Bandwidth Product for Metasurface-Based Monopole Antenna	409
<i>N. Aparna, L. Bhavana, S. A. K. Naidu, Bikash R. Behera, Debashish Pal</i>	
Edge Retention Based CT and MRI Fusion Using Decomposition Techniques NSST and SWT	414
<i>V. Saravanan, S. Malarvizhi</i>	
Investigation of a FSS Inspired Printed Monopole Antenna with Gain Enhancement for 5G Applications.....	419
<i>Y. Jhansi, P. Poojitha, D. Mahigeethika, Bikash R. Behera, Debashish Pal</i>	
Prediction of Performance Metrics of Nanosheet Field Effect Transistor with LR and RFR Machine Learning Models.....	423
<i>R. B. Naveen Kumar, V. Rajakumari, S. R. Routray, K. P. Pradhan</i>	
Automatic Classification of Retinal Fundus Images for Diabetic Retinopathy Detection	427
<i>Jiny M. Jerry, Teddy Thomas, R. Pugalenth, Tomcy Thomas</i>	

Human Gait Recognition Using Cross View Micro Gait Dataset with Light Weight MobileNet.....	432
<i>Haripreeth D. Avarur, Abhay Lal, P. Nithyakani, Aryan Sinha, Gajulapalli N. Vyshnavi, Shruthi Kannan</i>	
Multi-Loop Control Design for Two Input Two Output System: A Disturbance Observer Approach.....	437
<i>Shaik Uzma, Kutakula Tanusha, Attuluri Tarun, S. Rajasekaran, Soumya R. Mahapatro</i>	
Cardio Monitoring and Cardiac Disease Prediction Using Machine Learning.....	441
<i>Chennamsetty V. Ravikanth, S. Kolangiammal, Kshitij Chegondi, Valluru Gowtham</i>	
Design and Development of Mecanum-Assisted Caster Platform: A Moderate Perturbation Device	447
<i>Jaison J. Mathunny, S. Hari Krishnan, Ashokkumar Devaraj, Varshini Karthik</i>	
Guarding Against Bots with Art: NST-Based Deep Learning Approach for CAPTCHA Verification	452
<i>Yuvraj K. Gajani, Shivam Bhardwaj, M. Thenmozhi</i>	
Development of Computer Vision Based Assistive Software for Accurate Analysis of Autistic Child Stereotypic Behavior	457
<i>Dundi U. Reddy, K. V. Phani Kumar, Bandaru Ramakrishna, U. Ganapathy Sankar</i>	
Remote Health Monitoring of Divers Using Underwater Acoustic Communication	462
<i>Chettiyar V. Vivekanand, T. M. Inbamalar, M. Keerthi Vasan, V. Krishna Prasath, B. Kavimani</i>	
Weather Management System Using Machine Learning Algorithm and IOT	468
<i>Parth Shah, A. Yashwant, Umang Khaitan, S. Kayalvizhi</i>	
Kesterite(CCTS) Solar Cell with Back Surface Field (BSF) Layers (CZTS/CZTSe): Empirical Observations into Electrical and Optical Parameters	472
<i>Sneha Aich, P. Chandrasekar, Prithiviraj Rajalingam, Soumyaranjan Routray</i>	
Analysis of Various Machine Learning and Deep Learning Algorithms for Bitcoin Price Prediction	477
<i>Babita Sonare, Sonali Patil, Rohini Pise, Siddhesh Bajad, Siddhesh Ballal, Yash Chandre</i>	
Performance Evaluation of High Efficiency & Low Cost Bi-Layer Perovskite Solar Cell	482
<i>Rajdeep Mishra, Utsav Khandelwal, Benisha A. Chris, Manish Verma, Soumyaranjan Routray</i>	
Pneumonia Detection of Linearly Classified X-Ray Images Using CNN	486
<i>Nishant Singh, Subhojeet Bhattacharjee, N. Prasath</i>	
An Efficient FPGA Implementation of LDPC Decoder for 5G New Radio	491
<i>R. Varshini Devi, S. Rajaram</i>	
5G Antenna Design Methods and Performance Enhancement Techniques: A Review	496
<i>A. Vincy Lumina, M. Sangeetha</i>	
Realization of High Performance Approximate Multipliers for FPGA Application.....	503
<i>Abhishek K. Yadav, Sachin Agrawal, Nitin S. Singha</i>	
Design and Implementation of Smart Housing System for Elderly Persons	508
<i>P. Venu Madhav, V. Subba Reddy, Biswajit Jena, D. Rishik, M. Ashfaque, R. Chanikya Raju, P. Supriya</i>	
VLSI Architectures for Security Analysis with Dual-Key LFSR Using Barrel Shifter and S-Box	513
<i>M. Maria Dominic Savio, M. Mirudula Shri, G. Naveenkumar, N. Athiban, Sravgi Varanasi, N. Bharathiraja, Venkat N. Patnala</i>	

Reconfigurable T-Shaped Discrete Tunable Antenna for Cognitive Radio and Natural Sciences Applications.....	518
<i>Veera K. Bellapukonda, Arjuna Muduli, Deepak K. Nayak</i>	
Single Layer Reflectarray Antenna for High Frequency Applications	522
<i>Annal J. Joy, Sandeep K. Palaniswamy, S. Bashyam</i>	
Deep Learning Based Sign Language Recognition Robust to Sensor Displacement	527
<i>Rinki Gupta, Roohika M. Dadwal</i>	
Analysis of the Effects of Different Electrical and Physical Parameters on Contact Resistance in Organic Thin Film Transistors and Optimization Using Machine Learning	532
<i>R. Nirosha, Aishiki Halder, Vaishnavi Upendran, Rajesh Agarwal</i>	
Real-Time Face Transition Using Deepfake Technology (GAN Model).....	538
<i>Shubham Tandon, Aryan Vig, Murli Kartik, Harish C. Kumawat</i>	
Text and Language Independent Speaker Recognition System for Robust Environment	543
<i>Pasumarthi S. Sri, Patti Seetha, S. Emalda Roslin, N. M. Nandhitha</i>	
Design of Low Power Approximate Multiplier Based on Compressors for Multimedia Application	548
<i>Sarika Rai, Dhara Guntuku, Shreya Gupta, M. M. D. Savio, Manish Verma</i>	
Design of an Efficient Routing Technique Based on Clustering	554
<i>Debashish Pal, V. Sravani, D. S. Sneha, M. Rajesh</i>	
Non-Uniform Metasurface-Based Microstrip Patch Antenna with Bandwidth and Gain Enhancement for Wireless Applications	559
<i>D. S. Sneha, M. Rajesh, V. Sravani, Bikash R. Behera, Debasish Pal</i>	
A Robust Approach for the Detection of Diabetic Retinopathy at an Early Stage Using Deep CNN	563
<i>N. Shivaanivarsha, P. Kavipriya</i>	
An Efficient Fully Automated Detection of Mucormycosis Using Three-Dimensional Deep Learning on Computer Tomography Studies.....	569
<i>N. Shivaanivarsha, P. Kavipriya, M. Shyamkumar</i>	
An Intrusion Detection System for the Internet of Things Based on Machine Learning.....	575
<i>Yanala Venkat, Kanna P. Chand, T. Preethiya</i>	
HEAP-SORT on Dual Port RAM Based FPGA	581
<i>M. C. Chinnaiah, G. Divya Vani, Dasari J. Reddy, Kamsani Bharath, J. Sai Kiran Goud, Naren Kumar</i>	
The Power Optimization of Mm Wave Circular Array Antenna for 5G Communications	587
<i>S. Brindha, J. Teena Josy, R. Pooja, M. Baskaran, M. Subashree</i>	
Camobot - Thermal Image Processing Surveillance Rover with GPS Tracking and Human Detection Using OpenCV	592
<i>R. G. Sharath Kumar, S. Brindha, G. Lakshmi, L. Raja Narayanan, S. Adithya Subramani</i>	
A Comparative Analysis of Regression Algorithms for Prediction of Emotional States Using Peripheral Physiological Signals	598
<i>P. Subathra, S. Malarvizhi</i>	
High Radix Design for Montgomery Multiplier in FPGA Platform.....	604
<i>A. Arunachalamani, V. R. Venkatasubramani, V. Vinoth Thyagarajan, S. Rajaram</i>	

Design and Analysis of Wide-Band Doherty Main Power Amplifier	609
<i>Tanduru Cherisma, Gaurav Kumar, Aarush Sood, K. Suganthi</i>	
Analog/RF Performance Evaluation of InAs-InGaAs-GAA-TFET	613
<i>M. Saravanan, Eswaran Parthasarathy, K. Ramkumar, J. Ajayan</i>	
Effective Facial Emotion Recognition Using Bi-Wavelet Bi-Directional Gated Recurrent Unit Neural Network	618
<i>R. Jeen Retna Kumar, Berakhah F. Stanley, Joel D. D. J. Daniel</i>	
Classification of Valid Test Patterns Using Autoencoder for Adaptive Testing in VLSI	623
<i>Kunal Nikhade, G. Sowmiya, S. Malarvizhi</i>	
Development of Machine Learning Model to Detect Fault Data Injection Attack on Vehicle Following Systems	628
<i>S. Dharsini, G. Prabhakar, S. Rajaram, J. Shanthi</i>	
Route Perception of Autonomous Vehicle Using Feature Extraction and KALMAN Filter	634
<i>Subham Chakraborty, Kumar T. K. Sunil</i>	
IoT Based Forest Fire Prediction Framework.....	639
<i>Banu P. Prathaban, Subash Rajendran, G. Lakshmi</i>	
Temperature Analysis Along with Headcounts on LCD Display Using IR/US Sensors.....	644
<i>Sanjana Mahindre, Ayush Anand, Rana Singh, Manish Verma</i>	
Deep Learning Approach for Intrusion Detection and Mitigation in IoT Environment: A Comprehensive Study.....	648
<i>R. Arthi, S. Krishnaveni</i>	
Validation of an Automated Step Length Measurement Method in Sprinting Athletes Using Computer Vision and Pose Estimation	654
<i>Hari K. Srinivasan, Jaison J. Mathunny, Ashokkumar Devaraj, Varshini Karthik</i>	

Author Index