

2024 IEEE 1st International Conference on Advances in Signal Processing, Power, Communication, and Computing (ASPPCC 2024)

**Bhubaneswar, India
19-21 December 2024**



**IEEE Catalog Number: CFP24VC4-POD
ISBN: 979-8-3503-5510-9**

**Copyright © 2024 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:	CFP24VC4-POD
ISBN (Print-On-Demand):	979-8-3503-5510-9
ISBN (Online):	979-8-3503-5509-3

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

2024 IEEE 1st International Conference on Advances in Signal Processing, Power, Communication, and Computing (ASPCC)

Table of Contents

Ethereum Fraud Detection: A comparative analysis of supervised learning approach 1–6

Nrusingha Tripathy (Siksha 'O' Anusandhan, Deemed to be University, Bhubaneswar, India)
Kumar Surjeet Chaudhury (KIIT, Deemed to be University, Bhubaneswar, India)
Arpita Nibedita (Trident Academy of Technology, Bhubaneswar, India)
Subrat Kumar Nayak (Siksha 'O' Anusandhan, Deemed to be University, Bhubaneswar, India)
Manjushree Behera (P.N College, Khordha, India)
Baidehi Jena (P.N College, Khordha, India)

An optimized Grid computing based Feature selection approaches from Brain Image dataset using Pretrained models 7–13

Sradhanjali Nayak (NIIS Institute of Business Administration, Bhubaneswar, India)
Pradyut Kumar Biswal (IIIT Bhubaneswar, Bhubaneswar, India)
Pravakar Mishra (NIIS Institute of Business Administration)
Sateesh Kumar Pradhan (Utkal University, Bhubaneswar, India)

Autoencoder Integrated Feedforward Neural Network based Intrusion Detection System 14–19

Piyush Raj (C.V. Raman Global University, Bhubaneswar, India)
Tushar Prakash (C.V. Raman Global University, Bhubaneswar, India)
Sonu Kumar (C.V. Raman Global University, Bhubaneswar, India)
Ankit Raj (C.V. Raman Global University, Bhubaneswar, India)
Aditya Prakash (C.V. Raman Global University, Bhubaneswar, India)
Mamata P. Wagh (C V Raman Global University, Bhubaneswar, India)

Dual Random Phase Encoding Encryption Using Fractional Fourier Transform 20–25

Vanitha Kakollu (GITAM University Visakhapatnam, India)
Hari Kishore Neerukattu (Jawaharlal Nehru Technological University Kakinada, Kakinada, India)
Battula Tirumala Krishna (Jawaharlal Nehru Technological University Kakinada, Kakinada, India)

Fault Analysis of Aircraft Systems Indicated on a Cockpit Panel by using Image Processing 26–31

Joseph Chakravarthi Chavali (Karunya Institute Of Technology And Sciences, Coimbatore, India)
D. Abraham Chandy (Karunya Institute Of Technology And Sciences, Coimbatore, India)

Novel IsOWC System Design Using Hybrid Diversity Technique 32–37

Utpal Das (National Institute of Technology Raipur, Raipur, India)
Bijayananda Patnaik (National Institute of Technology Raipur, Raipur, India)
Bibhudendra Acharya (National Institute of Technology Raipur, Raipur, India)

FPGA implementation of AIQ based Daubechies filter Bank for Medical Image Retrieval 38–42

Aswini Samantaray (Manipal Institute of Technology Bengaluru, Bengaluru, India)

Satyajit Sahoo (VFSTR, Guntur, India)

Amol D. Rahulkar (National Institute of Technology Goa, Goa, India)

Performance Improvement of FSO System with OAM Spatial Modulation 43–48

Suman Dass (National Institute of Technology Raipur, Raipur, India)

Bibhudendra Acharya (National Institute of Technology Raipur, Raipur, India)

Bijayananda Patnaik (National Institute of Technology Raipur, Raipur, India)

Sign Language Recognition using GLCM and ResNet50 features with PPCA-based Feature Reduction Approach 49–54

Dimpy Sahu (National Institute of Technology Raipur, Raipur, India)

Suvendu Rup (National Institute of Technology Raipur, Raipur, India)

Automated Decision Making System for Bank Loan Approval with Real-Life Dataset 55–60

Roshan Gupta (C V Raman Global University, Bhubaneswar, India)

Abhishek Bhattacharya (C V Raman Global University, Bhubaneswar, India)

Archita Kumari (C V Raman Global University, Bhubaneswar, India)

Mamata P. Wagh (C V Raman Global University, Bhubaneswar, India)

Sanjay Kumar Singh (C V Raman Global University, Bhubaneswar, India)

Data Analysis in Wireless Sensor Networks with Distributed Self Organizing Map 61–66

Anita Panwar (Malaviya National Institute of Technology Jaipur, Jaipur, India)

Satyasai Jagannath Nanda (Malaviya National Institute of Technology Jaipur, Jaipur, India)

Brain Tumor Detection and Segmentation using SAM integrated YOLOv9 Scheme 67–72

Mridul Mayankeyshwar (C V Raman Global University, Bhubaneswar, India)

Lookinder Kumar (C V Raman Global University, Bhubaneswar, India)

Mamata P. Wagh (C V Raman Global University, Bhubaneswar, India)

Swatishree Behuria (C V Raman Global University, Bhubaneswar, India)

Dev Yadav (C V Raman Global University, Bhubaneswar, India)

Diabetic Retinopathy Detection using DWT and NGTDM Features with PCA-Based Feature Reduction Approach 73–78

Abhishek Kumar Saw (National Institute of Technology Raipur, Raipur, India)

Suvendu Rup (National Institute of Technology Raipur, Raipur, India)

Machine Learning Based Performance Analysis of Advanced Modulation Formats in Optical Network 79–84

Shakrajit Sahu (Vellore Institute of Technology, Vellore, India)

J. Christopher Clement (Vellore Institute of Technology, Vellore, India)

Optimizing Sensor Node Placement in Wireless Sensor Networks Using Hybrid PSO-GWO Technique 85–89

Paramveer Kumar (National Institute of Technology Raipur, Raipur, India)

Sudhakar Pandey (National Institute of Technology Raipur, Raipur, India)

Analysis of a Microstrip Patch Antenna with Rectangular Slots and Parasitic Structures for Ka Band Applications 90–95

Shivangi Singh (Indira Gandhi Delhi Technical University for Women, Delhi, India)

Sonika Chamola (Indira Gandhi Delhi Technical University for Women, Delhi, India)

Vaishali Kikan (Indira Gandhi Delhi Technical University for Women, Delhi, India)

Ashwni Kumar (Indira Gandhi Delhi Technical University for Women, Delhi, India)

Performance Analysis of UAV-Assisted FSO Links in Presence of Hovering Fluctuations 96–100

Deepika Maharana (IIIT Bhubaneswar, Bhubaneswar, India)

Rajat Kumar Giri (IIIT Bhubaneswar, Bhubaneswar, India)

Eye Disease Classification using CNN and Vision Transformers 101–106

Prathibha Goriparthi (Acharya Nagarjuna University, Guntur, India)

Embedded System for Efficient Brain Stroke Prediction using CSML on PYNQ-Z2 107–112

Sudhansu Ranjan Dwibedi (IIIT Bhubaneswar, Bhubaneswar, India)

Pradyut Kumar Biswal (IIIT Bhubaneswar, Bhubaneswar, India)

Investigation of Water Cycle Algorithm in Renewable based Micro Grid 113–117

Prasantini Samal (Siksha 'O' Anusandhan, Deemed to be University, Bhubaneswar, India)

Niranjan Nayak (Siksha 'O' Anusandhan, Deemed to be University, Bhubaneswar, India)

Sujit Kumar Bhuyan (Manikaran Analytics Limited New Delhi, India)

Investigation Analysis of a Bidirectional DC-DC Converter for EV Charging 118–123

Aditi Chatterjee (C V Raman Global University, Bhubaneswar, India)

Stutee Patra (C V Raman Global University, Bhubaneswar, India)

Pratyush Samal (C V Raman Global University, Bhubaneswar, India)

Divya Jyoti (C V Raman Global University, Bhubaneswar, India)

Kumar Apurva Utsav (C V Raman Global University, Bhubaneswar, India)

Ridge Regression Approach with Randomized Search CV Technique in Wind Power Forecasting 124–128

Ayush Kumar (IIIT Bhubaneswar, Bhubaneswar, India)

Santosh Samal (Xavier Institute of Management Bhubaneswar)

Saurav Mishra (Xavier Institute of Management Bhubaneswar)

Umamani Subudhi (IIIT Bhubaneswar, Bhubaneswar, India)

Impact of DG Penetration Level on the Sustainable Operation of Smart Power Distribution Network Under Various Load Conditions 129–133

Subhadra Behera (IIIT Bhubaneswar, Bhubaneswar, India)

Usharani Raut (IIIT Bhubaneswar, Bhubaneswar, India)

Advancements in Smart Grids: Harnessing AI, IoT, and 5G Integration for Sustainable Energy Management 134–139

Debani Prasad Mishra (IIIT Bhubaneswar, Bhubaneswar, India)

Barsa Preyaadarshini (IIIT Bhubaneswar, Bhubaneswar, India)

Kriti Mishra (IIIT Bhubaneswar, Bhubaneswar, India)

Ayush Kumar (IIIT Bhubaneswar, Bhubaneswar, India)

Rakesh Lenka (Central university of Odisha, Koraput, India)

Different Predictive Control Methods for DTC IM Drive: A Concise Review 140–145

Debendra Dehury (Silicon University, Bhubaneswar, India)

Rabi Narayan Mishra (Silicon University, Bhubaneswar, India)

Ramprasad Panda (Silicon University, Bhubaneswar, India)

Kanungo B. Mohanty (National Institute of Technology Rourkela, Rourkela, India)

Abhimanyu Sahu (National Institute of Technology Rourkela, Rourkela, India)

Hybrid Laplace-Gaussian Differential Privacy to Secure Data Aggregation in Edge-IoT Systems 146–151

Paritosh Yadav (National Institute of Technology Raipur, Raipur, India)

Sudhakar Pandey (National Institute of Technology Raipur, Raipur, India)

Prerna Singh (National Institute of Technology Raipur, Raipur, India)

Parth Pandey (Rajeev Gandhi Institute of Petroleum Technology, Amethi, India)

Advancing Color Perception: An IoT-driven Pedagogical System for Visually Impaired Children 152–157

Balage Prasandika (University of Westminster, London, United Kingdom)

Nuwan Jayawardene (Informatics Institute of Technology, Colombo, Sri Lanka)

Implementation of optical lock through visible light communication using AES 158 –162

K. P. Swain (Trident Academy of Technology, Bhubaneswar, India)

Sumant Kumar Mohapatra (Trident Academy of Technology, Bhubaneswar, India)

Pushpanjali Mallik (Sailabala Women's College, Cuttack, India)

R. K. Dash (Galgotia University, India)

Rakesh Kumar Lenka (Central University of Odisha, Koraput, India)

Chebyshev polynomial based Harmonic Estimation for Solar Photovoltaic System 163–168

Siddhanta Pani (IIIT Bhubaneswar, Bhubaneswar, India)

Umamani Subudhi (IIIT Bhubaneswar, Bhubaneswar, India)

Design of Battery and Ultra Capacitor for stability improvement of Microgrid in constraint to secondary Controller **169–174**

Rajib Nayak (KIIT , Deemed to be University, Bhubaneswar, India)

Banishree Misra (KIIT , Deemed to be University, Bhubaneswar, India)

Byamakesh Nayak (KIIT , Deemed to be University, Bhubaneswar, India)

RGConvNET:A Hybrid Hyperspectral Image Classification Model for Extracting Deep Features with Improved Accuracy **175–180**

Vikash Ranjan (IIIT Bhubaneswar, Bhubaneswar, India)

Pradyut Kumar Biswal (IIIT Bhubaneswar, Bhubaneswar, India)

Thermal Consequences of Elevated Current Density: Effects on Transformer Longevity and Reliability **181–186**

Shashikant Ojha (Odisha University of Technology and Research, Bhubaneswar, India)

Rudranarayan Pradhan (Odisha University of Technology and Research, Bhubaneswar, India)

Tapan Kumar Sahoo (National Institute of Technology Warangal, Warangal, India)

Integration of VLSI with Traditional PID Controller for Temperature Control in Electronic Devices **187–192**

Rudranarayan Pradhan (Odisha University of Technology and Research, Bhubaneswar, India)

Swapnaleen Jena (Odisha University of Technology and Research, Bhubaneswar, India)

Shashikant Ojha (Odisha University of Technology and Research, Bhubaneswar, India)

Tapan Kumar Sahoo (National Institute of Technology Warangal, Warangal, India)

Solar-Powered Nine-Level Quadruple Boost Inverter With Fuzzy Logic Control **193–197**

B. Kavya Santhoshi (Godavari Global University, Rajahmundry, India)

D. Ravi Kishore (Godavari Global University, Rajahmundry, India)

Performance Analysis of Hybrid FSO-RF Link under Diverse Atmospheric Conditions **198–203**

Saummit Kanoongo (IIIT Bhubaneswar, Bhubaneswar, India)

Rajat Kumar Giri (IIIT Bhubaneswar, Bhubaneswar, India)

Effect of Substrate-height on the property of ultrawideband Wilkinson Power Divider **204–208**

Rupali Layak (IIIT Bhubaneswar, Bhubaneswar, India)

Sasmita Nayak (IIIT Bhubaneswar, Bhubaneswar, India)

Sanjeev Kumar Mishra (IIIT Bhubaneswar, Bhubaneswar, India)

Fusion based Semi-adaptive Gamma-correction for Dark Image Enhancement **209–214**

Pravat Kumar Singh (Silicon University, Bhubaneswar, India)

Aditya Acharya (Silicon University, Bhubaneswar, India)

Speech Emotion Recognition Using Light Weight Mobilenetv2 215–220

S.S Balantrapu (Jawaharlal Nehru Technological University Kakinada Kakinada, India)

Sanjit Kumar Dash (Satyasai Engineering College, Baleswar, India)

Mallikarjuna Prasad A (Jawaharlal Nehru Technological University Kakinada Kakinada, India)

Dynamic DG administration to reduce power system inefficiencies 221–224

Bibhu Prasad Nanda (IIIT Bhubaneswar, Bhubaneswar, India)

Debani Prasad Mishra (IIIT Bhubaneswar, Bhubaneswar, India)

Monte Carlo Simulation of Underwater Optical Communication System with Optimized Coefficients 225–229

Sagarika Patro (IIIT Bhubaneswar, Bhubaneswar, India)

Rajat Kumar Giri (IIIT Bhubaneswar, Bhubaneswar, India)

Study of MIMO-OFDM System for future Mobile Communication 230–235

Ashish Kumar Sarangi (Parala Maharaja Engineering College, Berhampur, India)

Dinesh Kumar Dash (Parala Maharaja Engineering College, Berhampur, India)

Enhancing Crop Yield Prediction Accuracy in Precision Agriculture: A Comparative Analysis 236–241

Anil Kumar Pandey (National Institute of Technology Raipur, Raipur, India)

Sanjay Kumar (National Institute of Technology Raipur, Raipur, India)

Deepika Agrawal (National Institute of Technology Raipur, Raipur, India)

Sudhakar Pandey (National Institute of Technology Raipur, Raipur, India)

A CPW-fed Hexagonal Broadband CP Antenna for WiMax and WLAN Application 242-246

Sasmita Nayak (IIIT Bhubaneswar, Bhubaneswar, India)

Rupali Layak (IIIT Bhubaneswar, Bhubaneswar, India)

Sanjeev Kumar Mishra (IIIT Bhubaneswar, Bhubaneswar, India)

Skin Cancer Detection Using CNN and Ensemble Learning 247–252

Ruturaj Samantaray (Tata Consultancy Services Limited, Bengaluru, India)

Karishma Afrin (C V Raman Global University, Bhubaneswar, India)

Bichitrananda Behera (C V Raman Global University, Bhubaneswar, India)

Kirtimayee Bag (C V Raman Global University, Bhubaneswar, India)

Improved Real-time Yoga Pose Estimation with GAN Augmentation 253–256

Kappa Dinesh Reddy (Centurion University of Technology & Management, Bhubaneswar, India)

Kalivarapu Sai Vasanth (Centurion University of Technology & Management, Bhubaneswar, India)

Abantika Jena (Centurion University of Technology & Management, Bhubaneswar, India)

Chinmayee Dora (Centurion University of Technology & Management, Bhubaneswar, India)

Sujata Chakravarty (Centurion University of Technology & Management, Bhubaneswar, India)

Optimal Voltage Regulation and Energy Efficiency in Photovoltaic Grid system 257–262

Debarchita Mishra (Vels Institute of Science, Technology and Advanced Studies, Chennai, India)

D Karan (Vels Institute of Science, Technology and Advanced Studies, Chennai, India)

Sanjay Rahul C (Vels Institute of Science, Technology and Advanced Studies, Chennai, India)

Benito Micheal Abhsha.j (Vels Institute of Science, Technology and Advanced Studies, Chennai, India)

Arok biror Abuoi (Vels Institute of Science, Technology and Advanced Studies, Chennai, India)

Sharmistha Mandal (Aliah University, Kolkata, India)

An Approach for DFU Classification using VGG-19 and 2D-SSA 263–267

Sujan Kumar Bindhani (Centurion University of Technology & Management, Bhubaneswar, India)

Tarini Prasad Mohanty (Centurion University of Technology & Management, Bhubaneswar, India)

Himanshu Sahoo (Centurion University of Technology & Management, Bhubaneswar, India)

Rasmiranjan Nayak (Centurion University of Technology & Management, Bhubaneswar, India)

Suman Kumar Bindhani (Centurion University of Technology & Management, Bhubaneswar, India)

Chinmayee Dora (Centurion University of Technology & Management, Bhubaneswar, India)

Sujata Chakravarty (Centurion University of Technology & Management, Bhubaneswar, India)

Optimizing Economic Load Dispatch problem Using Curve Fitting and Artificial Neural Networks 268–273

Prajnadipta Sahoo (VSSUT, Burla, India)

Santi Behera (VSSUT, Burla, India)

Arun Kumar Sahoo (IIIT Bhubaneswar, Bhubaneswar, India)

Ajit Kumar Barisal (Odisha University of Technology and Research, Bhubaneswar, India)

Cluster Head Selection in IoT Networks Using Salp Swarm Optimization 274–277

Deepika Agrawal (National Institute of Technology Raipur, Raipur, India)