2025 9th International Conference on Electrical, Telecommunication and Computer Engineering (ELTICOM 2025)

Medan, Indonesia
6-7 November 2025

IEEE Catalog Number: CFP25U09-POD
ISBN: 979-8-3315-6939-6

Copyright © 2025 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:	CFP25U09-POD
ISBN (Print-On-Demand):	979-8-3315-6939-6
ISBN (Online):	979-8-3315-6938-9

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
Web: www.proceedings.com



Contents

Foreword ... **ii**
Time Schedule ... **1**
Committee of The Conference ... **9**
Presented Papers ... **11**
Paper ID: 24329 *Comparative Analysis of the Effect of Epoxy Silicone Rubber Resin with Silica Sand/TiO2 and Silica Sand/MgO Fillers on the Mechanical and Electrical Characteristics of Insulators* ... 12
Paper ID: 24407 *Design of a Wind Power Generation Turbine for Low-to-Medium Wind Speeds in Medan* ... 18
Paper ID: 24471 *Development of an Agrivoltaic System with Horizontal and Tilt Adjustment Solar Tracking for Bok Choy (Brassica rapa subsp. Chinensis) Growth Condition* ... 26
Paper ID: 24476 *A Study of Spectrogram-based Convolutional Neural Network for Jamming Attack Detection in IEEE 802.11 WLANs* ... 33
Paper ID: 24543 *Evaluation of Machine Learning Models for Heart Rate Data Imputation from Wearable Devices* ... 40
Paper ID: 24668 *YOLO V8-Based Illegal Fishing Detection Using Underwater ROV and ASV Robot Through UDP Communication* ... 46
Paper ID: 24679 *Analysis Of Parameters That Affect The Safety Of Substation Grounding Grids In Non-Homogeneous Soils* ... 52
Paper ID: 24680 *Monitoring and Control System for Solar Trackers Based on the Internet of Things* ... 59
Paper ID: 24711 *Chain-of-Thought Prompting for Simulating Scam Interactions with Multi-Role Agents in Digital Literacy Education* ... 65
Paper ID: 24764 *Development of a K-Nearest Neighbor - Based Indoor Alert System Using Vibration Engines and LCD Displays in Wrist for Deaf Individuals* 73
Paper ID: 24840 *Transient Stability Assessment of Inverter Based Renewable Sources in Microgrids Using Adaptive Virtual Inertia Control and Optimized Power Injection* ... 79
Paper ID: 24842 *Vision-Based Bookshelves Inventory using Cascade R-CNN* ... 86
Paper ID: 24846 *Reinforcement Learning Meets the Cloud: A Q Learning Framework for Efficient Task Scheduling* ... 92
Paper ID: 24872 *Anomaly Detection and Prediction HIV using Local Outlier Factor and XGBoost* ... 98
Paper ID: 24885 *A Deep Learning-Based Framework for Personalized Laptop Recommendation from Natural Language Input* ... 103
Paper ID: 24889 *Application of Double-End Impedance-Based Fault Location for Overhead Two-Terminal Transmission Lines in NGCP Using Data Captured by Network Disturbance and Monitoring Equipment* ... 110
Paper ID: 24890 *IndoBERT for Indonesia Crime News Classification* ... 117
Paper ID: 24894 *Indonesian Text Normalization for Spam Detection: Non Standard Word Processing and Correction* ... 125
Paper ID: 24903 *Deep Learning for Veterinary Dermatology: A VGG16 Transfer Learning Approach for Skin Disease Classification in Pets* ... 132
Paper ID: 24907 *Multiclass Classification of Facial Skin Spot with CNN Architecture* ... 139

Paper ID: 24910 *Electrochemical Sensor for Detecting Heavy Metals in Irrigation System in the Philippines* 144
Paper ID: 24911 *A Rank-Based Ant System for Enhancing Time Management Efficiency in Android Applications*..... 150
Paper ID: 24915 *Detection of Referral Inefficiency at First Level Health Facilities in BPJS Using the Light Gradient Boosting Machine Algorithm* 157
Paper ID: 24963 *Development of a LiDAR-based 3D Scanner using a Plane Mirror Base for Improved Scanning Coverage and ICP-based Pose Graph SLAM Optimization Algorithm for 3D Reconstruction*..... 162
Paper ID: 24966 *Classification and Identification of Natural Biodegradable Fabrics using Convolutional Neural Network* 168
Paper ID: 24969 *Design of an Automatic Rainwater Drainage System for Nutrient Film Technique Hydroponic Plants* 174
Paper ID: 24989 *Classification of Aedes Mosquito Larvae Using Hybrid Convolutional Neural Network and Long Short-Term Memory* 180
Paper ID: 24990 *Oryza sativa Pest Detection Using Lightweight YOLOv5 Considering Phototactic Attraction* 185
Paper ID: 24992 *Impact of Active Cooling Systems on Solar Panel Efficiency and Net Energy Production* 191
Paper ID: 24994 *Optimizing Minimum Reuse Distance Using a Hybrid Pointing and Fractional Frequency Reuse Method in LTE 2600 MHz* 197
Paper ID: 24996 *A Near Real-Time Contactless Vital Signs Monitoring System* .. 203
Paper ID: 25005 *Comparative Analysis of Robotic and Water-Based Cleaning Systems for Solar Panels: Performance and Economic Feasibility* 209
Paper ID: 25016 *Abalone Age Classification Based on Physical Characteristics Using the C4.5 Algorithm Approach* 215
Paper ID: 25017 *Harmonic Distortion Evaluation and Derating Factor Determination for Dry-Type Transformers in Port Crane Operations* 220
Paper ID: 25018 *A Combined Discrete Cosine Transform Algorithm and Downsampling Techniques for Data Compression and Transformation on IoT Sensors* 226
Paper ID: 25025 *The Relationship between Tag Values and Redundant Paths in Gamma Networks* 233
Paper ID: 25026 *Analysis of Harmonic Distortion Effects on Grid-Tie Inverter Operation in a Photovoltaic System* 239
Paper ID: 25028 *Soil Corrosion Rate Analysis on Grounding System Based on Current Density Difference on Electric Vehicle Charging System* 247
Paper ID: 25031 *Technical and Economic Analysis of Capacitor Bank and Static VAR Compensator Installation on a 20 kV Distribution* 253
Paper ID: 25034 *Detection of Citrofortunella Microcarpa (Calamansi) Leaf Disease Using YOLOv8 Architecture* 259
Paper ID: 25042 *Deep Learning Based Classification of 45 Days Chicken Freshness Using Convolutional Neural Networks and Adam Optimizers* 267
Paper ID: 25045 *Digital Maturity Index in Higher Education Indonesia: Indicators for Digital Transformation Readiness* 274
Paper ID: 25047 *Device Protection and Tracking System For Pet With Tamper Sensor and Global Positioning System* 281
Paper ID: 25051 *Full-Arm Wearable Haptic Interface Incorporating Force Feedback and Joint Constraint Mechanisms*..... 287
Paper ID: 25052 *Multi-Label Emotion Classification for Indonesian Text using IndoBERT Fine-Tuning* 293

Paper ID: 25056 *Development of an IoT-based Automatic Watering and Monitoring System Using the MQTT Protocol for Oil Palm Nurseries* 300
Paper ID: 25058 *Estimation of Safety Threshold Parameters of Substation Grounding Grid Configurations* 306
Index of Authors