2024 IEEE 3rd International Conference on Robotics, Automation, Artificial-Intelligence and Internet-of-Things **(RAAICON 2024)**

Dhaka, Bangladesh 29-30 November 2024



IEEE Catalog Number: CFP24V76-POD ISBN:

979-8-3315-3441-7

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:
 CFP24V76-POD

 ISBN (Print-On-Demand):
 979-8-3315-3441-7

 ISBN (Online):
 979-8-3315-3440-0

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









2024 IEEE 3rd International Conference on Robotics, Automation, Artificial-Intelligence and Internet-of-Things (RAAICON)

Table of Content

Paper ID	Title	Page No
4	Development of a Low Cost IoT Integrated System in Precision Smart Garden	1-6
8	Spectral and Morphological Classification of Celestial Objects using Physics Informed Machine Learning	7-12
11	Development of an Accelerometer-based Data Acquisition System for Hand Gesture Recognition	13-18
12	Lung Cancer Prediction and Risk Assessment: A Machine Learning Approach Integrating Symptoms and Etiological Factors	19-23
13	i-Glove : An Intelligent Glove System Based on Deep Learning to Support Deaf-blind Individuals in Recognizing Banknotes	24-29
15	CNN-XGBoost Based Ensemble Model for Short-Term Load Forecasting	30-33
17	A Comparative Analysis of Short-Term Solar Power Forecasting Using Machine Learning Methods	34-38
18	Intelligent Fire Surveillance: A Deep Learning Framework for Accurate Indoor Fire Detection	39-42
21	SLRNet: Shallow Convolutional Neural Network for Efficient Sign Language Recognition	43-48
23	Real-Time Detection of Defective Products of a Tortilla Machine Production Line Using TensorFlow Object Detection API and OpenCV	49-52
26	Robust Phishing URL Classification Using FastText Character Embeddings and Hybrid Deep Learning	53-58
34	Effective Disease Recognition in Cucumbers: A Web-Based Application Using Transfer Learning Models	59-64
43	Real-time Object Detection and Distance Measurement for the Patients with Visual-Spatial Agnosia	65-69

47	An Averaging Ensemble Method for Multiclass Brain Tumor Classification Using Transfer Learning	70-75
55	Automated Biofloc Technology for Fish Farming with GSM based Monitoring System	76-81
57	Heart Disease Classification with XAI and Kernel SHAP	82-85
58	Development and Implementation of An Autonomous Smart Seed Sowing Robot With A Precise Closed-Loop Control System	86-90
63	Optimized Control Strategy for Self Balancing Robot: Micro Stepping Motors and PID Algorithm	91-95
79	Automated Wound Segmentation using Attention Mechanism based on Enhanced MobileNetV2	96-101
80	An Innovative Approach to Glass Classification Using Deep Neural Network	102-106
81	Enhancing Cybersecurity with an Investigation into Network Intrusion Detection System Using Machine Learning	107-110
83	Optimizing Energy Efficiency in Home PV Systems through MPPT and Converter Control	111-116
87	loT-based Smart Municipal Garbage Management System for Fertilizer Processing System	117-120
90	Efficient speed control and comparison of voltage gain and efficiency of Separately excited DC motor with CUK converter and ZETA converter	121-126
93	Home Energy Optimization Strategies in Bangladesh to Minimize Electricity Cost and Grid Energy Consumption Using Optimization Algorithm	127-132
99	Enhancing Trajectory Tracking of Quadrotor Using Feedback Linearization with MPC-LPV and LQI-LPV under Variable Disturbances	133-138
104	DeepCerviNet: Enhanced Cervical Cancer Classification Using Supervised Learning Model	139-142
105	A Signal Processing and Machine Learning Framework for Enhanced TDS Simulation	143-146
106	Neural Command: Real-Time EEG-Based Brain-Computer Interface for Assistive Robotic Control	147-151
111	Machine Learning-Driven Demand Prediction for Off-Grid PV- Integrated EV Charging Stations	152-157
112	Development of IoT-based Scale Sensor to Measure AWD System Water Level in Crop Field	158-162
113	Accumulation Efficiency Augmentation of Mono C-Si Solar Cell using Photon Concentration Method	163-166
116	Optimized IoT Intrusion Detection using Machine Learning Technique	167-172

117	Generative Al-assisted Standalone Wearable Reading Glasses for the Visually Impaired	173-176
118	Determinants of AI Image Generator Adoption Among Marketing Agencies: The Mediating Effects of Perceived Usefulness	177-182
119	Performance Evaluation of an IoT Based Dual Axis Prototype Solar Tracker Over Fixed PV Installations	183-187
120	Decentralized Solar PV/Battery-based Energy Management for Isolated Areas	188-193
123	Rotational Symmetric Circular Split-Ring with Inductive Tail- Shaped Microwave Metamaterial Absorber for Aeronautical Radionavigation Applications	194-197
124	Detecting Polycystic Ovary Syndrome with Convolutional Neural Networks: Enhancements through Adversarial Training and Gradient-Weighted Class Activation Mapping (Grad-CAM)	198-202
132	An Automated Network Intrusion Detection and Identification System by Synergizing AI Techniques	203-206
134	Deep Learning for Brain Tumor Detection Leveraging YOLOv10 for Precise Localization	207-212
135	Transfer Learning for Ultrasound-Based Kidney Stone (Urolithiasis) Detection with Augmented Regularization and Saliency Maps	213-217
139	Implementation of Hector SLAM Algorithm for Mapping Indoor Environments with Obstacles	218-223
141	Enhancing Power Grid Reliability in Bangladesh: An IoT-Based Approach to Transmission Line Fault Detection	224-229
142	Advanced Dual-Axis Solar Tracking System with IoT-Driven Real- Time Monitoring for Optimized Efficiency	230-233
146	HandEEGnet: A Kolmogorov-Arnold Network for Hand Movements Classification from Motor Imagery EEG	234-237
148	Efficient Path Planning and Cruise Control Features In Self- Driving Cars Using ROS2 & Machine Learning	238-241
151	A Proficient Convolutional Neural Network for Detecting Watermelon Disease with Occlusion Sensitivity	242-247
153	Advancing Bilingual SMS Spam Detection: A Comparative Exploration of Machine Learning and Deep Ensemble Techniques	248-251
155	Autonomous Robot Navigation with SLAM, AMCL, and Real-Time User Interaction for Task Management and Identity Verification	252-257
158	CCFD-SSL: Optimizing Real-Time Credit Card Fraud Detection Using Self-Supervised Learning and Contrastive Representations	258-263
162	Brain Tumor Diagnosis Using a Hybrid Method of BoVW, LBP, and Neural Networks	264-269
163	Epileptic Seizure Prediction Using a Deep Hybrid CNN-GAN Model on EEG Data	270-275

164	Lung Cancer Classification Using CNN and Random Forest	276-281
165	Internet of Things Based Health Monitoring System Using Smart Glove	282-286
169	Challenges in using NVIDIA Jetson Nano board for an Autonomous Underwater Vehicle	287-292
170	MiniBert24: A Lightweight Transformer-Based Model for Stock Market Movement Prediction	293-298
171	VOIS+: A Video Over Intercom Service with Home Automation Features for Advanced Security and Safety	299-302