2024 International Conference on Electrical, Communication and Computer Engineering (ICECCE 2024)

Kuala Lumpur, Malaysia
30 – 31 October 2024

IEEE

IEEE Catalog Number: CFP24U20-POD
ISBN: 979-8-3315-2944-4

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: CFP24U20-POD
ISBN (Print-On-Demand): 979-8-3315-2944-4
ISBN (Online): 979-8-3315-2943-7

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

Paper ID	Title	Authors	Page No.
9	Experimental study of homogeneous charge compression ignition in a light-duty diesel engine operated with commercial gasoline-ethanol	Juan José Milón Guzmán, Sergio Leal Braga	1
10	Experimental study on a homogeneous charge compression ignition in light-duty diesel engine operated with commercial gasoline-ethanol: in cylinder pressure	Juan José Milón Guzmán, Sergio Leal Braga	7
16	Extended Reality as an assistive technology for patients suffering from neurodegenerative diseases	Akilesh S, Tulasi Raman R, Sakthivel Velusamy	13
17	Neural Network for the Detection of Fire Ants and Other Invasive Species	Matthew Brako-Medina, Carla López-Arnedo, Alejandro José Álvarez-López, Julio Alberto Hernández-Gonzalo, Pedro Juan Roig, Salvador Alcaraz, Adolfo Albaladejo, Julio Jornet	18
35	Order Picking Framework for Storage Location of Chemical Warehouse	Thanyawan Chanpanit, Chalermchai Chaitongrat, Chutinun Chanpanit, Janjira Kongchuenjai	23
40	Effect of Transmission Range and Grid Dimensions on Route Cost in WSN using TABU Search Algorithm	Mahmoud Zaki Iskandarani	29
41	Study on Heartbeat and Respiration Rates Estimation with Two Wave Models by using mmWave MIMO FM-CW Radar	Mie Mie Ko, Toshifumi MORIYAMA	35
43	Design Options for Thermal Uprate of a Transmission Line: A Case Study in the South African Power System	Jack Mathebula, Nhlanhla Mbuli, Sharon Mushabe	40
44	Reconfigurable LNA using GaN HEMT for C and X-band Space Applications	Mohamed Ali, Anwar Jarndal	46
45	Design and Simulation of 2-elements Printed Inverted-F MIMO Antenna with Step Cavity Reflector	Cho Thet Htar, Zin Mar Phyo, Takafumi Fujimoto	52
46	Design of X Band Double Balance Mixer for Radar Systems	Yavuz Selim Saglam, Ismail S¸is¸man, Tugba Haykir Ergin	55
54	Broadband RF Front-End Circuit Design for Satellite Communication Systems	Ismail Sisman, Tugba Haykir Ergin, Yavuz Selim Saglam, Duygun Erol Barkana	59
57	Design and Implementation of a Low-Cost Virtual Rifle Shooting Simulator for the Peruvian Army Military School	Luis Alonso Rondón Gómez, Piero Alarcón, Diego Arce	65
64	Integrating PRINCE2 and Agile Methodologies in Software Development: Unveiling Opportunities and Addressing Challenges	Md Shahinur Rahman, Emon Ahmed	71
65	Time Series and Machine Learning Methods for Short-Term Load Forecasting in Modern Power Systems	Hamza Yousaf, Khalid Munir, Aqib Hassan, Athar Waseem, Muhammad Haris, Syed Ahmad Saleem Bokhari, Kaleem Ullah	79
66	Integration of Mamba and Transformer – MAT for Long-Short Range Time Series Forecasting with Application to Weath Dynamics	Wenqing Zhang, Junming Huang, Ruotong Wang, Changsong Wei, Wenqian Huang, Yuxin Qiao	85
67	Robust Integral Terminal Sliding Mode Control for Frequency Regulation in Islanded Microgrids incorporating RESs and HESS using a Disturbance Observer	Muhammad Muzammal Islam, Tianyou Yu, Massimo La Scala, Jie Wang	91
68	Advances and Challenges in Automated Agriculture: Integrating 5G Wireless Technology with IoT, Cloud Computing and Robotics	Xinwei Li, Chia Chao Kang, Zi Neng Ng	97

73	Intelligent Marine Debris Cleaning Robot: A Review	Xinwei Li, Junjian Chen, Yongsen Huan, Zexuan Cui, Ng Zi Neng	102
78	Handwriting Anomalies and Learning Disabilities through Recurrent Neural Networks and Geometric Pattern Analysis	Vasileios Alevizos, Sabrina Edralin, Akebu Simasiku, Dimitra Malliarou, Antonis Messinis, Clark Xu, George A. Papakostas, Zongliang Yue	108
81	Brain Tumor Detection: A Comprehensive Review	Poonam Bhagat, Dr. R.Pandian	114
82	Unveiling the Consequences of Data Breaches: Risks, Impacts, and Mitigation in the Digital Age	Fiona Spanca, Armend Salihu	120
83	Problem Formulation of Portfolio Optimization with Loans and Its Solution by Artificial Bee Colony Algorithm and Convex-Hull Mapping	Kiyoharu Tagawa	128
84	Classification of Lumpy Skin Disease for Cows According to Appropriate Parameter Values in Transfer Learning Methods	Çiğdem Bakır	134
88	Battery state of health prediction with gated recurrent neural networks: a data-driven approach for battery management systems	Christos Iraklis, Ahmed Hesham Balawi, Sarika Vaibhav Patil, Thomas Altmann	140
89	Wireless Sensor Network-Based Semi-Addressable Fire Detection and Alarm System with Zone Loop Short and Open Circuit Detection	Yzagany Ivarra B. Geniza, Ramon G. Garcia	145
93	Creation and Annotation of a Handwritten Text Database for the Kazakh Language: Methodologies and Preliminary Results	Arman Yeleussinov, Talgat Islamgozhayev, Zhanibek Kozhirbayev	153
94	Dynamic Pickup and Delivery Task Allocation in Multi-Agent Robotic Systems: Vacancy Chain Approaches Evaluation	Shahd E.Askar, Sameh FS Eid, Yasser I. Elshaaer	159
95	Using AI and Digital Simulations to Expedite the Learning and Programming of COBOTS	Hector Rafael Morano-Okuno, Guillermo Sandoval-Benitez, Rafael Caltenco-Castillo	165
96	Implementation Of Li-Fi Technology In Smart Classroom	S. BRINDHA, V A GODWIN JOE, HRITISH JOY.S.R, TEJA RAGHUVEER.B, HARIHARAN.E	171
97	Enhancing Medical Summarization with Parameter Efficient Fine Tuning on Local CPUs	Shamus Sim Zi Yang, Goh Man Fye, Wei Chung Yap, Diong Zi Yu	177
98	Bibliometric Study on Virtual Reality Applied to Military Training	Diogo Pacheco Salazar Araujo, Romullo Girardi, Jauvane C. de Oliveira, Paulo Fernando Ferreira Rosa	184
99	PlatePal: A Comprehensive Image-Based Food Analysis and Dietary Assistant Mobile Application	Piyachart Chailaemlak , Pakamon Trakarnkittikul , Sirawit Wattano , Sansiri Tarnpradab	190
100	Harnessing the Power of Quantum Feature Representation for Leveraging Fused Descriptor Definition in Breast Cancer Diagnosis	Rik Das, Niladri Dutta, Debdeep Mukherjee, Saranik Mahapatra, Indranil Mitra, Prasun Nandy	197
103	Simulations of Non-Invasive Vehicle Wheel Faults Detection using AI-driven Motor Surrogate Model	Hoon Lee, Dr. Ka. C. Cheok	203
107	First demonstration of Fixed access network security traffic cleaning architecture and method	Pang-Chen Liu, Chun-Kuei Chen, Fei-Hua Kuo	211
108	YOLO-Based Oil Palm FFB Ripeness Detection	Mohammadmahdi Naghipour, Lew Sook Ling, Tee Connie	215
109	TechnoSearch: Improving e-commerce searches using product category and brand based ranking	Davud Mohammadpur, Mohammad Hasan Saghafi	220

111	Evaluating the Impact of Risk Management Frameworks on IT Audits: A Comparative Analysis of COSO, COBIT, ISO/IEC 27001, and NIST CSF	Armend Salihu, Ramadan Dervishi	226
112	Hybrid Quantum Neural Network for Rice Leaf Disease Classification	Ahmad Zaki Al Muntazhar, Dwi Ratna Sulistyaningrum, Budi Setiyono, Ridho Nur Rohman Wijaya	234
113	Improved Image Feature Extraction Based on Quantum Convolution	Ridho Nur Rohman Wijaya, Budi Setiyono, Dwi Ratna Sulistyaningrum, Ahmad Zaki Al Muntazhar	240
114	Fake Review Detection Using Extravagant Words: A Comparative Study of K-means, K-mode, and Hierarchical Classification	Mohammed Ennaouri, Mohamed Raoui, Ahmed Zellou, Moulay Hafid El Yazidi	246
117	A Wireless Wearable System to Monitor Posture When Using Ergonomic Setups	Anna Buelt, Cheol-Hong Min, Hassan Salamy	253
118	Exploring Dialogue Capabilities with Automation Systems in the AAM Ecosystem	Sueun Bae, Jeongseok Kim	259
121	Detection of SQL Injection Attacks Using Machine Learning Techniques	RDN Shakya, D. N. S. Dharmaratne, Manjula Sandirigama,	266
122	A study on CartoonGAN using high-resolution generative networks through feature emphasis	Min Sung Choi, Hae Won Lee, Seong Geon Bae	272
123	A Study on the three-dimensional Augmented GAN Algorithm through Object Separation	Bo Min Kim, Ga Eun Park, Si Eun Park, Seong Geon Bae	277
125	A Study on Improved CartoonGAN with Color Tone Separation White Balancing	So-Yoon Kim, Su-Bin Cho, Seong-Geon Bae	281
126	A Techno-Economic Study on the Prospect of CSP Plant for Different Areas of Dhaka, Bangladesh	Hasan Mousud Shoaib, Md. Bin Yeamin, Muhammad Sajjad Hossain, A.K.M Ehtesanul Islam, Safayat Al Imam	286
131	A Fibonacci-based switched-capacitor DC/DC converter with dynamically adjustable conversion ratio for harvesting applications	Roberto Di Rienzo, Cesare Sandri, Federico Baronti, Roberto Saletti, Roberto Roncella	292
134	Integrating Optimization Techniques in Software Development Life Cycle - SLR	Rawan Ali, Mohammad Reza Bahrami	298
135	Oscillations of Modern Synchronous Generators in Power Systems	Jožef Ritonja	306
136	Acorn 4.0: An Platform auxilied by AI for Acorn Value Chain Optimization	Higor Vendramini Rosse, Elisabete Sousa Freitas, Pedro Babo, Khadija Sabiri, Jo˜ao Santos, Caio Rafael Dias Camargo	312
137	AI-Driven Optimization for Urban and Vertical Agriculture Planning: A Multi-Model Approach	Ismail El Sayad, Harjobanpreet Singh Sidhu, Montek Kundan, Alesandros Glaros, Stefania Pizzirani	318
140	Automatic Detection of Photovoltaic Module Defects based on Infrared images with Deep Learning Technique	Abdalla Elshamy, Yomna Shaker	324
143	Comparative Analysis of TensorFlow Pre Trained Object Detection Models: Performance, Efficiency, and Application Suitability	Samain Abid, Muhammad Haris, Mansoor Iqbal, Nadia Khan, Khalid Munir, Hamza Yousaf	330
144	Development and Evaluation of New Visible Index on Remote Sensing for Estimating House Damage	Haruhiro Shiraishi, Yuichiro Usuda	336
149	Generation and Accuracy Evaluation of Disaster Situation Maps Using Disaster Scale Index: DI	Haruhiro Shiraishi, Yuichiro Usuda	340

151	Improving Sales Predictions With Autoformer By Integrating ARIMA For Anomaly Detection	Mohammad Hasan Saghafi, Monireh Moshavash, Davud Mohammadpur	343
152	Enhancing Short-Term Load Forecasting Accuracy in the Power Systems Using a Hybrid CNN-GRU Model	Muhammad Ahsan, Muhammad Osama Aziz, Syed Ahmad Saleem Bokhari, Muhammad Haris, Mansoor Iqbal, Kaleem Ullah	349
153	Social media emotional state classification prediction based on Arctic Puffin Algorithm (APO) optimization of Transformer mod	Jue Xiao, Wei Xu, Jianlong Chen	354
154	Classifying 5G Encrypted Packet Traces	Jose Armando Tes ´ en Mara ´ n˜on, Romaric Duvigna	360
155	Improving Convulutional Neural Networks Diagnostic Ability for Malignant Skin Dieases on Diverse Skin Tones with Smooth Grad-CAM++ and Grad-CAM++	Audrey Na	366
156	A Comprehensive Analysis of Cloud Service Models: IaaS, PaaS, and SaaS in the Context of Emerging Technologies and Trend	Rehmana Younis, Mansoor Iqbal, Khalid Munir, Muhammad Aaqib Javed, Muhammad Haris, Saad Alahmari	372
157	Battery Charger Based on Interleaved Three-Branch Converter with Model Predictive Control	Duarte Manuel do S. Raposo, Andre Salume Lima Ferreira Leao, Walbermark M. dos Santos	378
158	A Study to Integrate EV Charging Station in an Industrial Network	Sadribul Hassan, Abu Rayhan Siddique, Dr. Tareq Aziz	384
159	A Novel Approach for Robot-Student Interaction (RSI) in Laboratory Teaching	A.S. Rupasinghe, T.P.G.M. Chathuranga, H.M.K.K.M.B. Herath, B.G.D.A. Madhusanka, S.L.P. Yasakethu, Udesh S. Oruthota	390
160	Classification of Crime-related News Titles using Machine Learning Methods	Mapitsi Roseline Rangata, Tshephisho Joseph Sefara	397
163	Machine Learning Algorithms For Producing Equations in Physics	Huber Nieto-Chaupis	402
164	Quantization of Energies with Machine Learning without Quantum Mechanics	Huber Nieto-Chaupis	407
165	Derivation of Weibull Distributions From Spike Inputs with Artificial Neural Networks	Huber Nieto-Chaupis	412
166	Predictive Model of Next Global Pandemic Based at Perceptron and Shannon Entropy	Huber Nieto-Chaupis	417
167	Phenomenological Recession: From Gaussian to Bayesian Probability	Huber Nieto-Chaupis	422
168	Synapse as a Control System Based at a Thevenin LRC Biocircuit	Huber Nieto-Chaupis	427
169	Formal Algebraic Model of a Generic BCube Data Center Network Architecture	Pedro Juan Roig, Salvador Alcaraz, Katja Gilly, Cristina Bernad, Carlos Juiz	432
171	Multi-View Human Activity Recognition in Ambient Assisted Living Using Lightweight Deep Learning Models	Ahsanul Bari, Hezerul Abdul Karim, Fahmid Al Farid, Farshid Amirabdollahian, Sarina Mansor	437
172	Leveraging Large Language Models to Enhance Personalized Recommendations in E-comm	Wei Xu, Jue Xiao, Jianlong Chen	443
175	Classifying Programming Ability: A Machine Learning Approach Using Debugging Metrics	Basma S. Alqadi	449
176	Implementation of Solar based Irrigation Robotic System	Hind Al Zaabi, Hanna Ibrahim, Youmna Shaker	455
178	Enhancing Public Building Energy Efficiency through Digital Twin Modeling and Iterative Simulation: A Sustainable Approach	Zahid Ullah, Muhammad Osama Aziz, Giambattista Gruosso, Rafi Ullah, Naveed Ahmad, Alda Scacciante	459
179	What's the Key Environment Information that Makes the Blockage Prediction Work	Yutong Sun, Zuoyong Nan, Zhigang Zhon, Tao Shen, Rui Ban	465

183	Energy characterization of an all-terrain vehicle with an internal combustion engine converted to an electric vehicle	Juan José Milón Guzmán, Holger Campos Paredes, Diego Alonso Valdivia Vera	469
189	Leveraging Fuzzy Logic for Accurate Compound Noun Extraction in Textual Data	Latifa Rassam, Imane Ettahiri, Ahmed Zellou, Karim Doumi	475
191	Leveraging Extravagant Linguistic Patterns to Enhance Fake Review Detection: A Comparative Study on Clustering Methods	Mohammed Ennaouri, Imane Ettahiri, Ahmed Zellou, Karim Doumi	481
192	Development of a CNN Approach Classification Model for Soybean (Glycine max., L.) and its Common Weeds to Support Precision Agriculture	Hannah Jean B. Serrano, Dr. Jeffrey A. Lavarias, Dr. Carolyn Grace G. Somera Almerol, Dr. Khavee Agustus W. Botangen, Dr. Sylvester A. Badua	486
195	Optimizing Mobile Robot Navigation: A Genetic Algorithm and Convolutional Neural Network Approach	Rehmana Younis, Muhammad Talha Ejaz, Shokoufeh Davarzani	493
197	Faulty Sensors Detection in Planar Array Antenna Using Fish School Search Algorithm	Shafqat Ullah Khan, Ammar Nasir, Fawad Zaman, Shahid Iqbal, A Waseem	499
198	Investigating Young Filipino Farmers' Digital Technology Adoption	Michelle M. Cortez	507
199	Hybrid PSOCSA-Driven Power Allocation for Capacity and Spectral Efficiency Optimization in Spatially Correlated MIMO Systems	Md. Samiur Rahman, Mohammad Tawhid Kawser	513
200	RATING, SIMILARITY – USER-ITEM BASED COLLABORATIVE FILTERING	LAGLIL Oussama, BENAYAD Mariam, EL YAZIDI Moulay Hafid, ZELLOU Ahmed	519
201	Sign Language Recognition using PCA and Hu Moment Features	Jamal Khan, Sikandar Khan, Muhammad Saeed, Sami Ullah, Naveed iqbal, Madiha Sher, Khurram Karim Qureshi	525
203	Performance Analysis of 3.75 Gbit/s Secure SAC OCDMA-WDM-FSO System by Using the AND Subtraction Technique	Fahmidul Islam, Anika Tun Naziba, M. Reefaz Rahman, Prof. Dr. Mohammad Nasir Uddin	531
208	Comparative Analysis of Traditional CSS and UAV based Virtual CSS	Chilakala Sudhamani, Mardeni Roslee, Khaldon Azzam Kordi, Sufian Mousa Ibrahim Mitani, Azlan bin Sulaiman, Abdullah Hadi Yahya Al-Quhali, Athar Waseem	536