2023 IEEE 15th International Conference on Computational Intelligence and Communication Networks (CICN 2023)

Bankok, Thailand 22 – 23 December 2023



IEEE Catalog Number: CFP2327L-POD **ISBN:**

979-8-3503-2444-0

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:	CFP2327L-POD
ISBN (Print-On-Demand):	979-8-3503-2444-0
ISBN (Online):	979-8-3503-2443-3
ISSN:	2375-8244

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



2023 15th IEEE International Conference on Computational Intelligence and Communication Networks

CICN 2024 Table of Contents

Welcome from IEEE CICN 2023 General Chairs	i
Welcome from IEEE CICN 2023 Program Chairs	.ii
Conference Committees	iii

Track-A: Communication Systems, MW Components, Communication Protocols and Computer Networks

A Simple Analytical Expression of Average AUC With Diversity Over Composite Fading
Almost Pilotless Channel Estimation Using Dimension Reduction by PCA
Comparative Analysis of Congestion Window Size and Throughput for BBR Versus Elastic TCP14 Subhra Priyadarshini Biswal; Nihar Ranjan Barik; Sanjeev Patel
Discovering Vital Nodes in Complex Networks Using Isolating Extended Coreness Score
Evaluating Energy-Saving Routing Techniques for MANET Protocols
 LVSUM-Optimized Live 360 Degree Video Streaming in Unicast and Multicast Over Mobile Networks
Performance Analysis of IOT Based Wireless Sensor Network and Its Graphical User Interface for Air Quality Monitoring
Performance Evaluation of Non-Orthogonal Multiple Access With Energy Harvesting40 Van Khuong Ho
Spectrum Sensing Using Cooperative Energy and Matched Filter Detectors in Cognitive Radio45 Ayoob Ayoob; Ghaith Khalil; Zozan Ayoob
STAR-RIS-Aided Full-Duplex Communication for Massive MIMO IoT Systems
Using Genetic Algorithms for Second-Order Cellular Neural Networks

DP-DTL-Based Resource Allotment for Expansive and Dynamic M-WiFi/LiFi Networks	62
Leveraging Generalized Reciprocity as a Cooperation Mechanism in Dynamic Spectrum Access Networks	69
Truc T Duong; Anna Wisniewska	

Track-B: Data Mining, Big Data, IOT, Robotics and Cloud Computing

A Prediction Method of Enterprise Evaluation based on Genetic Taboo Algorithm
Algorithm Design and Optimization of Data Mining Technology in Reader Service Recommendation System
Application of Random Forest Algorithm in New Media Network Operation Data Push
Carbon Emission Monitoring for Telco Cloud
Data Information Technology Evaluation Algorithm Based on Knowledge Graph and Feature Recognition
Design and Application of Intelligent Recognition Model for English Translation Based on HMM Algorithm
Design and Implementation of Football Match Management Platform Based on Cloud Computing Technology
Design and Performance Analysis of an IoT Network Based Smart Safety Jacket for Miners117 Omar Gatera; Kambombo Mtonga; Kubwimana Patrick
Design of Data Comparison System for Art Works Based on Intelligent Algorithms
Design of Dynamic Monitoring System for Cold Chain Logistics Vehicles Based on Internet Digital Intelligence Technology
Easing Disaster Management via IoT Based Interconnected Systems
Examining the Impact of Cloud Computing on Indian Education
Exploration on Central Nervous System Injury Detection Technology Based on Data Analysis149 Fu Yunxia
Exploration on Heterogeneous Network Security Monitoring Algorithm Based on Big data Intelligent Information Technology
Extracting Course Text Entity Relationships Based on Improved Bert BiGRU Ratt Model159 Jingdong Wang; Yongjia Guo
Online English Intelligent Question Answering System Based on K-means Algorithm

Performance Modeling and Analysis of Internet of Things Enabled Healthcare Monitoring Systems17 Saithej Singhu; Lokeshwari Anamalamudi; Shiva Shankar Mutupuri; Anil Carie Chettupally; Sruthi Sivarajan; Satish Anamalamudi	1
Research on Algorithm Combining Bayesian network Model with Causal Reasoning	3
Sales Accounting Big Data Analysis Based on RPA and Big Data Algorithm	1
The Computer Network in Construction BIM in the Context of Cloud Computing	3
Mobile Robot Shaping Filter Vibration Model for Attached Object	3
Track-C: Machine Learning, Deep Learning and Optimisation Methods	
A Comparative Analysis on Metaheuristic Algorithms Based Vision Transformer Model for Early Detection of Alzheimer's Disease	0
Advancements in Sentiment Analysis: A Deep Learning Approach	6
Algorithm Based on Deep Learning Techniques for Classification of Solid Waste in Recycling Plants	1
Cesar Pena; Ciro Rodriguez; Diego Rodriguez, Martha Gonzales Loli	
Application of Cloud Computing Online Teaching Platform Based on Deep Learning Algorithms218 Zou Junxiu	3
Application of NLOS Positioning Error Elimination Algorithm in Durability Design and Optimization of Building Structures	4
Breast Cancer Detection Using Machine Learning Algorithms	1
Comparative Analysis of Word vs. Character Embedding for Machine Learning Based Detection of Malicious URLs and DGA-Generated Domains	7
Comparison of Various ML Approaches for Detection of DDoS Attacks in SDN	5
Construction of a Three-dimensional Geological and Mineral Resource Prediction Model Based on Machine Learning Algorithms)
Dongqiang Hu, Zhang Qiang, Hui Li, Cheng Yang	
Deep Learning and Search-Based Approach for Duplicate Bug Report Detection in Industrial Datasets	6
Evaluating Machine Learning Models for Rainfall Prediction: A Case Study of Nyando in Kenya	Λ
Ahmad Lawal; Suleiman Y Yerima; Daniel O. Olago; Philip Omondi Amingo; Charles Wamagata Kariuki; Wangari Wang ombe; Lydia Olaka; Linda Obiero; Shem O. Wandiga	4
Fatigue Driving Detection System Based on Deep Learning	2

Forecasting Stock Markets Trends Using Machine Learning Algorithms
Hybrid Deep Learning Approach for Information Analysis and Fake News Detection
Investigation on Intelligent Production Workshop Dynamic Scheduling System Based on Machine Learning Algorithms
Machine Learning Based Malware Detection for IoT Networks
Optimization of Decoupling Capacitors in Power Delivery Networks Using Machine Learning Algorithms
Performance Comparison of Machine Learning Techniques for Early Detection of Postpartum
Depression Using PRAMS Dataset
Pre-Trained Deep Learning Networks for Advanced Visible Imagery Drone Detection and
Recognition
Predictive Analysis on Student's Mental Health Towards Online Mobile Games Using Machine Learning
Shaifali Chauhan; Mohit Mittal; Hardeep Singh; Satendra Kumar; Pallavi Goel; Swadha Gupta
Predictive Modeling for Heart Disease Detection With Machine Learning
Research on Optimal Control of Substation Rainwater Treatment Process Based on Improved Genetic Algorithm
Revolutionizing Transportation Using Deep Reinforcement Learning: A Comprehensive Review335 Salabh Rai; Aryan Dixit, Ashutosh Yadav, Bharat Bhushan
Text-To-Image Conversion Using Deep Learning
Karthikeyan Varaha Raj Sai, Mohammad Ishrat
Upgrading and Optimization of Motion Tracking Technology Based on Genetic Algorithm
Track-D: Blockchain, Cryptography and Network Security
A Lightweight Blockchain Scheme for the Internet of Things

A Reversible Data Hiding Approach in Medical Images Using Difference Expansion	358
Moh Rosy haqqy Aminy; Ntivuguruzwa Jean De La Croix; Tohari Ahmad	

A Steganographic Scheme to Protect Medical Data Using Radiological Images
Application and Research of Chaos Algorithm in Information Security Systems
Automatic Recognition Algorithm for Wireless Network Communication Joint Modulation Based on Blockchain Technology
Computer Network Security Strategy Based on Data Encryption Technology
Construction of Computer Network Information Security Protection System Based on Genetic Algorithm
Design of Campus Network Security Intelligent Monitoring System Based on BP Algorithm
Electricity Bill Fund Security Management System Based on Big Data and Cloud Computing405 Jiang Shuai, Tian Tong, Yuan Sun, Lijie Du, Qiong Gao
Impact of Different Types of Cyber-Physical Attack and Its Prevention on Load Frequency Control
IoT-Based Smart Security Robot With Android App, Night Vision and Enhanced Threat Detection415 Jeffrey Trillanes Leonen; Alexis M. Valentino
Secure Federated Learning-based Privacy Preserving in V2V Communications
Secure Wireless Communications Under Realistic Operation Constraints
Vulnerability Assessment of Security Breach and Deadly Threat in Cloud Computing Environment
Forgery Localization in Images Using Deep Learning
3D Ear Biometric Verification via Local Depth
Track-E: Power System, Power Grid and Control Systems
Adaptive Fuzzy Control Design and Implementation of Genetic Algorithm Based Robot System453 Duan Liying
Apriori Correlation Algorithm based Smart Grid Big Data Transaction Model Research
Challenges in Evaluating Power Quality and Service
Experimental Investigations of the Thermoelectric Generator for Energy Harvester of Indoor Air Quality Sensor Node

C. Bambang Dwi Kuncoro; Adhan Efendi; Maria Mahardini Sakanti; Amalia Nur Hikmah	
Harmonic Minimization of Multilevel Inverter Using Bat Algorithm4	177
Puja Singh; Kamaldeep Boora; ViKram Kumar	

Implementation of Power Grid Fault Diagnosis and Prediction Platform Based on Deep Learning Algorithms
Research on Smart Grid Condition Monitoring System based on Differential Evolutionary Algorithm
Xuelati Simayi, Lina Yang, Gaoqian Xue, Junqiang Jia, Liang Gou
Smart Grid Big Data Architecture Design based on Improved K-means Algorithm
Performance Evaluation of Energy Consumption for Optimal Relay Node Placement in WBANs using Ant Colony Optimization with Game Theory
Track-F: Image Processing, Neural Networks and Applications
Application of Biomimetic Optimization Algorithm in Computer Vision Object Detection System507 Jiang Zhenghong, Chunrong Zhou
BANANA BUDDY: Mobile Based Solution to Empower Sri Lankan Banana Farmers to Make Optimal Decisions and Win the War Against Plant Diseases and Pest Attacks
Circuit Fault Detection System of Simulation and Neural Network
Combining Genetic Algorithms and CNNs for Efficient Brain-Machine Interface Systems
Comparative Analysis of Skin Cancer Detection Using Classification Algorithms
Convolutional Neural Networks and YOLOv5 for the Detection of License Plates in Digital Photographic Images
Development of a Persistent, Accessible and Non-Invasive Glucose Monitoring Device
Baswaraj Gadgay; Vinita Patil
Enhancing Performance of Image Data Transmission Over Cooperative VLC Network
Evaluation of Data Calculus Quality Based on Computer Intelligent Image Recognition Algorithm557 Ran Junyi
Exploration on Computer Video Intelligent Monitoring and Tracking System Based on PSO
Algorithm
Fault Diagnosis and Improvement of Substation Grounding Network in Substation Engineering Based on Video Image Recognition
Image Colorization Enhancement Techniques Using Deep Convolutional GANs
Implementation of IR Lock on Poledrone (Polman Drone Education) for Precision Landing With
ROS

Pipit Anggraeni

Investigation on Network Survey Questionnaire Evaluation Based on Neural Network Algorithm591 Sun Yijin
Lightweight American Sign Language and Gesture Recognition Using YOLOv8
Wheat Plant Disease Detection Using CNN on Real-Time UAV Images
The Future of Document Retrieval: Harnessing the Power of OpenAI and AWS Kendra608 Jay Vimalkumar Joshi
Blind Image Quality Assessment With Multimodal Prompt Learning
Nhan T. Luu; Chibuike Onuoha; Truong Cong Thang
An Evaluation of Quality Metrics for Neural Radiance Field
Track-G: Social Networks, NLP, and IT applications
A New Single Phase Latch-Mux Based Dual-Edge-Triggering Flip-Flop for Low Power Applications
Jhanavi Kodethoor; Jayalaxmi Kiran Mukre; Jathin S; Rashmi Seethur
An Automatic Nuclei Segmentation Technique Using Unsharp Masking
Application of Artificial Intelligence Algorithms in the Popularity Prediction System of Network News Information Dissemination
Aspect-Level Sentiment Analysis Review: Recent Advances and Trends
Comprehensive Evaluation of English Learning Apps Based on Natural Language Processing646 Fanqi Meng; Manjun Qi; Songbin Bao
Concepts, Approaches, and Challenges in a Study of Sentiment Analysis
Construction of Financial Risk Intelligent Early Warning System Based on Collaborative Filtering Algorithm
Critical Analysis of BERT and LSTM Models for Bengali Sentiment Analysis Across Varied Datasets
Ariful Islam Rifat, Ashraful Islam
Design and Implementation of Psychological Counsel
Design of Clock Multiplier Using Modified Voltage-Controlled Delay Line
Design of Modern Enterprise Financial Crisis Warning System Based on Random Forest Algorithm

Developing Email Software Quality Using Software Product Concepts	5
Digital Illustration of Urban Intelligent Landscape Design Based on Interactive Genetic Algorithm69 Xie Yaru	0
Evaluation on Semiconductor Manufacturing Reconfiguration and Production Based on Scheduling Integrated Optimization Algorithm	8
Fusion Application of New Media Communication and Intelligent AI Algorithms in the Metaverse Ecology	4
GradTOD - A Unified Dialogue State Tracking Model for Task-Oriented and Open Domain Dialogues	1
Integral Role of Data Science in Startup Evolution	20
Kannada Subtitle Generation With Speaker Diarization: A Comprehensive Solution for Regional Language Visual Media Accessibility	27
Maintenix - Real-Time Maintenance Notification and Tracking System for a Complex Building73 Chamal Yasiru Weerasinghe; Hasthika Perera; Swarna Deshapriya; Binupa Mahathanthila;	34
Jayakody Arachchilage Don Chaminda Anuradha Jayakody	minda Anuradha Jayakody
Optimization Based Reconstruction for Digital In-Line Holographic Microscopy	
QoS Evaluation of In-Class Control in IEEE 802.1 TSN	6
Quality Assessment Model Based on ISO/IEC 25010 for E-Learning Platforms in the Cloud and Based on Laravel	1
Ranking Popular Personalities in Social Networks Using Mixed Centrality Method	58
Murali Krishna Enduri, Burhan Mohammad	
Research on English Semantic Intelligent Analysis System Based On Neural Network Algorithm76 Wang Yajun	64
Research on Key Technologies of Intelligent Detection of High-Speed Rail Pantograph Catenary Status Based on Image Fusion	;9
Research on Personalized Recommendation Algorithm for News on New Media Platforms77 Zhang Huihui, Kailiang Duan	5
Research on the Optimization and Upgrade of Computer Network Detection Technology in the Intelligent Age	1
Robust Fake Review Detection Using Uncertainty-Aware LSTM and BERT	6

Sentimental Analysis of Various TV Serials in Society
Smart Job Skills Simulator for Smart Learning Environment (SLE) at Ras Tanura Training Center797 Edgar T. Zapanta; Jeffrey Trillanes Leonen
Subject-Verb Agreement Error Handling using NLP: A Literature Review
Unleashing the Power of SVD and Louvain Community Detection for Enhanced Recommendations
VietLegalQA: Unsupervised Legal Question Answering for Vietnamese Using Cloze Translation Approach
Feature-Based Linguistic Text Sentiment Analysis Using Stacked Meta-Ensemble Learning818 Kishan Kumar, Priyanka, Robin Singh Bhadoria
Evaluating the Sentiment Analysis from Auto-Generated Summary Text using IndoBERT Fine-Tuning Model in Indonesian News Text