

2025 10th International Conference on Cyber Security and Information Engineering (ICCSIE 2025)

**Xining, China
23-25 July 2025**



**IEEE Catalog Number: CFP25CQ8-POD
ISBN: 979-8-3315-8573-0**

**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:	CFP25CQ8-POD
ISBN (Print-On-Demand):	979-8-3315-8573-0
ISBN (Online):	979-8-3315-8572-3

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

2025 10th International Conference on Cyber Security and Information Engineering (ICCSIE) **ICCSIE 2025**

Table of Contents

Message from General Chair	xviii
Message from Program Chairs	xix
Organizing Committee	xx
Reviewers	xxii

ICCSIE 2025

Research on the Distribution Method of Cross Border Logistics Relay Chain Based on Blockchain	1
<i>Yinfen Zhang (China National Institute of Standardization, China), Tao Xiong (China Electronic Port Data Center, China), and Bo Liang (State Administration for Market Regulation, China)</i>	
A Study on Privacy Protection Framework for E-Government Based on Zero-Knowledge Proofs .	7
<i>Yue Sun (Shaanxi University of Chinese Medicine, China) and Simin Bai (Shaanxi University of Chinese Medicine, China)</i>	
Research on Multi-Intelligent Body Reinforcement Learning for Intelligent Spectrum Sharing in Heterogeneous Wireless Networks	13
<i>Songquan Xue (China United Network Communications Group Co., Ltd, China) and Mianchao Huang (Guangdong Baiyun University, China)</i>	
Efficient Fine-Tuning of Large Language Models Based on Parameter-Efficient LoRA Techniques	18
<i>Honglin Yao (University of the Pacific, America)</i>	
Research and Implementation of Virtual Digital Human Driving Technology Based on Deep Learning	23
<i>Haiyun Cai (Shandong Vocational College of Science and Technology, China)</i>	
Enterprise Internal Network Asset Exposure Risk Detection System Based on Go Language, ATT&CK Framework and LSTM Time-Series Prediction	28
<i>Weixin Cai (Jimei University, China), Renjie Shi (Jimei University, China), Junxin Ye (Jimei University, China), Yuhang Zhu (Jimei University, China), Weiyao Li (Jimei University, China), and Yuanhui Yu (Jimei University, China)</i>	

Standardization of Cybersecurity Risk Compliance Operations: Iterative Application of Intelligent Technology in Typical Scenarios	36
<i>Yu Huang (EHV Power Transmission Company of China Southern Grid, China), Fang Qian (EHV Power Transmission Company of China Southern Grid, China), Qiang Chen (EHV Power Transmission Company of China Southern Grid, China), and Lincheng Li (EHV Power Transmission Company of China Southern Grid, China)</i>	
Improving the Convergence Speed of Visual Servoing Under Dynamic External Forces Based on Adaptive Dynamic PID Parameter Technology	43
<i>Rencai Zhang (Guangdong Jian Shi Technology Co., Ltd, China), Deshun Liu (Guangdong Jian Shi Technology Co., Ltd, China), Jinzhe Cao (Guangdong Jian Shi Technology Co., Ltd, China), Yue Liu (Guangdong Jian Shi Technology Co., Ltd, China), and Yuan Zhang (Guangdong Jian Shi Technology Co., Ltd, China)</i>	
Cross-Domain Transfer Method for 3D Scenes Based on Neural Radiance Field Representation .	53
<i>Xinyu Wang (Zhejiang University, China), Boyan Ji (Zhejiang University, China), Wei Xing (Zhejiang University, China), Huaizhong Lin (Zhejiang University, China), and Lei Zhao (Zhejiang University, China)</i>	
Optimization Research on Logistics Information Security Management Based on Improved PBFT Consensus	59
<i>Yunting Zhang (Quanzhou University of Information Engineering, China)</i>	
Transformer-Based Multimodal Feature Fusion for Phishing Email Detection	64
<i>Weijie Chen (State Grid of China Technology College, China), Xinguang Xiao (State Grid of China Technology College, China), and Guodong Chen (State Grid of China Technology College, China)</i>	
Research on Deep Learning-Based Multi-Source Data Fusion for Situation Monitoring and Rapid Perception	69
<i>Yu Huang (EHV Power Transmission Company of China Southern Grid, China), Guosheng Lu (EHV Power Transmission Company of China Southern Grid, China), Yukang Liu (EHV Power Transmission Company of China Southern Grid, China), and Fang Qian (EHV Power Transmission Company of China Southern Grid, China)</i>	
Chinese Japanese Flipped Classroom Scene Translation Technology Based on Iterative Back Translation	75
<i>Lin Shi (Heilongjiang International University, China)</i>	
Gas Pipeline Network Leakage Detection Signal Identification and Processing	81
<i>Lin Mei (Chongqing Special Equipment Inspection and Research Institute, China), Dugang Kang (Chongqing Special Equipment Inspection and Research Institute, China), Lin Zhang (Chongqing Special Equipment Inspection and Research Institute, China), Yu Zeng (Chongqing Special Equipment Inspection and Research Institute, China), and Sida Chen (Chongqing Special Equipment Inspection and Research Institute, China)</i>	
An Attention-Enhanced Deep Graph Learning-Based Optimization Model for Power Grid Topology.....	86
<i>Xiaoyan Hu (Economic Research Institute of State Grid Jiangsu Electric Power Co., Ltd., China), Zesen Li (Economic Research Institute of State Grid Jiangsu Electric Power Co., Ltd., China), Bingjie Li (Economic Research Institute of State Grid Jiangsu Electric Power Co., Ltd., China), and Jing Shi (Economic Research Institute of State Grid Jiangsu Electric Power Co., Ltd. Jiangsu, China)</i>	

End-to-End Word-Level Lip Reading Recognition for English Speech	91
<i>Xiaonan Zhao (Lishui University, China) and Feng Ling (Lishui University, China)</i>	
A Convex Optimization-Based Framework for Robust Data Fusion in Noisy Sensor Networks ..	96
<i>Pei Wu (Chongqing University of Science and Technology, China) and Zujia Wu (Renmin University of China, China)</i>	
Research on Traceability Method of Micro Deformation Monitoring Radar	101
<i>Zhuang Yang (National Institute of Measurement and Testing Technology, China), Duo Sun (National Institute of Measurement and Testing Technology, China), Zongwen Shen (National Institute of Measurement and Testing Technology, China), Yuanhui Peng (National Institute of Measurement and Testing Technology, China), Jiangwen Tang (National Institute of Measurement and Testing Technology, China), and Li Jiang (National Institute of Measurement and Testing Technology, China)</i>	
Research on an Intelligent Risk Assessment and Management Model for Civil Aviation Security Inspection Based on Improved BAS Algorithm	107
<i>Jie Zhou (College of Airport Management, Shanghai Civil Aviation College) and Lingling Ji (Shanghai Civil Aviation College, China)</i>	
System Architecture and Optimization of Intellectual Property Data Security Sharing Platform	114
<i>Fei Miao (Dalian University of Technology, China)</i>	
Research on Dynamically Optimized Architecture for Lightweight Multimodal Large Models in Intelligent Transportation	121
<i>Han Lin (Southwest Jiaotong University, China), Liu Yang (Southwest Jiaotong University, China), Xinhao Zhao (Southwest Jiaotong University, China), Shixin Tang (Southwest Jiaotong University, China), Jing Huang (Southwest Jiaotong University, China), and Furong Qi (Southwest Jiaotong University, China)</i>	
Identification and Behavioral Portrait of College Students with Economic Difficulties in Colleges and Universities Based on Federated Learning and Privacy Computing	127
<i>Zenglu Meng (Jiangsu University of Science and Technology, China)</i>	
Adaptive Merging Grid for Range Query Under Local Differential Privacy	132
<i>Dazhi Hu (Donghua University, China), Biyou Wang (Donghua University, China), and Ping Zhao (Donghua University, China)</i>	
Differentially Private Federated Learning: A Provably Secure Framework for Multi-Tenant Cloud AI Training	137
<i>Weihong Ou (Technical University of Science and Technology, China)</i>	
OTPPM: A One-time Pad-Based Password Manager	143
<i>Haozhe Min (Hangzhou Dianzi University, China), Yang Li (Hangzhou Dianzi University, China), Weijun Li (Hangzhou Dianzi University, China), and Yingpei Zeng (Hangzhou Dianzi University, China)</i>	
Age of Information Analysis for Short Packet Communications Based Multi-Access Networks ..	150
<i>Wenpeng Dong (Northwest Normal University, China), Mangang Xie (Northwest Normal University, China), Jing Wei (Northwest Normal University, China), Hui Zhang (Northwest Normal University, China), Changhao Song (Northwest Normal University, China), Baozhen An (Northwest Normal University, China), and Baoyu Zhang (Silk Road Information Port Cloud Computing Technology Co., Ltd.)</i>	
Research on the Protection Mechanism of Sequence Data in Big Data Privacy Attack and Defense Confrontation - Discussion Based on LSTM	156
<i>Liwei Tan (Financial Information Center, China)</i>	

Intelligent Environmental Control for Data Centers Based on Deep Neural Networks	161
<i>Zhixuan Zhang (China Aero Geophysical Survey and Remote Sensing Center for Natural Resources, Key Laboratory of Airborne Geophysics and Remote Sensing Geology (Ministry of Nature Resources), Technology Innovation Center for Geohazards Identification and Monitoring with Earth Observation System Ministry of Natural Resources of the People's Republic of China, China), Wei Huang (China Aero Geophysical Survey and Remote Sensing Center for Natural Resources, China), Wenji Li (China Aero Geophysical Survey and Remote Sensing Center for Natural Resources, China), Yuan Zhang (China Aero Geophysical Survey and Remote Sensing Center for Natural Resources, China), Zhitao Shao (China Aero Geophysical Survey and Remote Sensing Center for Natural Resources, China), and Zheng Lian (China Aero Geophysical Survey and Remote Sensing Center for Natural Resources, China)</i>	
Spectral Encoding Recognition and Denoising Based on PPO Algorithm and Enhanced Wave-U-Net Model	167
<i>Na Yan (Tibet University, China) and Yuzhe Shi (Tibet University, China)</i>	
Research on Network Intrusion Detection Optimization Based on Deep Learning	175
<i>Yifan Liu (College of Mechanical Engineering, Taiyuan University of Technology, China), Yangming Zhang (College of Mechanical Engineering, Taiyuan University of Technology, China), Jingfeng Tang (College of Mechanical Engineering, Taiyuan University of Technology, China), Yanjia Bai (College of Mechanical Engineering, Taiyuan University of Technology, China), and Chongjun Hao (College of Mechanical Engineering, Taiyuan University of Technology, China)</i>	
Deploying Privacy-Preserving Mechanisms for Financial Applications: A Comprehensive Survey ..	182
<i>Zhonglin Wang (Shanghai Normal University, China), Binqi Wang (Donghua University, China), and Ping Zhao (Donghua University, China)</i>	
Research on Multimodal Data Fusion Applications and Modeling Methods	193
<i>Sheng Ye (Lishui Zhenghao Electric Power Industry Group Co., Ltd., China), Guoqing Wu (Lishui Zhenghao Electric Power Industry Group Co., Ltd., China), Li Fan (Lishui Zhenghao Electric Power Industry Group Co., Ltd., China), and Lei Tang (Lishui Zhenghao Electric Power Industry Group Co., Ltd., China)</i>	
Construction of a Network Security Compliance Check and Situational Correlation Model Based on Multi-Source Data Fusion	198
<i>Fang Qian (EHV Power Transmission Company of China Southern Grid, China), Guosheng Lu (EHV Power Transmission Company of China Southern Grid, China), Lincheng Li (EHV Power Transmission Company of China Southern Grid, China), and Yukang Liu (EHV Power Transmission Company of China Southern Grid, China)</i>	
Corporate Financial Risk Monitoring by Fusing Generative Adversarial Network and Sparrow Search Algorithm	206
<i>Xinjuan Wang (Guangdong University of Science and Technology, China) and Yuan Jia (Guangdong University of Science and Technology, China)</i>	
A Cyber-Physical Systems-Based Digital Competency Framework for Vocational Educators in Industry 4.0	211
<i>Qianqian He (Chongqing Medical and Pharmaceutical College, China)</i>	
Efficient Application Deployment for Intelligent Manufacturing with Fog Computing	217
<i>Juan Wang (Guangdong Mechanical and Electrical Polytechnic, China) and Dan Huang (North China Electric Power University, China)</i>	

Research on Pulsar Timing Noise Prediction Based on ARIMA and TreeBagger Ensemble Learning Models	225
<i>Xiangyu Wang (Inner Mongolia Agricultural University, China)</i>	
Research on Optimization of Maritime Communication Data Exchange Model Based on Orthogonal Frequency Division Multiplexing	230
<i>Jianfei Wang (Ministry of Transport, China), Guang Sun (Ministry of Transport, China), Yu Wang (Ministry of Transport, China), Shengyu Jiang (Ministry of Transport, China), and Wen Gao (Ministry of Transport, China)</i>	
Iterative Classification of Multi-Intermittent Energy Data in the Power Grid Using Non-Negative Matrix Factorization	235
<i>Yue Tian (Information Center of Guizhou Power Grid Company Limited, China), Shun Yao (Information Center of Guizhou Power Grid Company Limited, China), Changhui Zhu (Information Center of Guizhou Power Grid Company Limited, China), Shouyu Sun (Information Center of Guizhou Power Grid Company Limited, China), Lihuang Huang (Information Center of Guizhou Power Grid Company Limited, China), and Zhao Zhang (Information Center of Guizhou Power Grid Company Limited, China)</i>	
Loss-Optimized Recursive Gradient Attack on Privacy	242
<i>Xiang Li (Anhui University, China), Hong Ye (Anhui University, China), Tianyi Kong (Anhui University, China), and Shouxing Wen (Anhui University, China)</i>	
A New Paradigm for Privacy (N2P) : Achieving Keyless Anonymity Through Mathematical Interpolation Schemes	250
<i>Adoum Youssouf (Virtual University of Chad, Chad), Abdramane Issa Oumar (University of N'Djamena, Chad), and Daouda Ahmat (University of N'Djamena, Chad)</i>	
Dual Enhancement of Data Value and Security: Network Security Compliance Risk Data Management Practice Based on DCMM	262
<i>Fang Qian (EHV Power Transmission Company of China Southern Grid, China), Jinqi Lu (EHV Power Transmission Company of China Southern Grid, China), Qiang Chen (EHV Power Transmission Company of China Southern Grid, China), and Yukang Liu (EHV Power Transmission Company of China Southern Grid, China)</i>	
Building LLM-Driven Cybersecurity Assessment System for News Source Credibility Based on the Robustness of Reinforced Adversarial Attacks: A Case Study of Southeast Asian Telecom Fraud News	270
<i>Ran Zhang (Leshan Vocational and Technical College, China), Jing Yang (University of Electronic Science and Technology of China, China), and Xutao Liu (Singapore National Computer Science, China)</i>	
Internal Audit Opinion Prediction Based on Deep Learning Keras Framework	275
<i>Yutao Zhang (Weifang Engineering Vocational College, China), Qingchang Liu (Weifang Engineering Vocational College, China), and Min Qian (Weifang Engineering Vocational College, China)</i>	
A CNN-Based Framework for Cross-Category Consumer Electronics Sales Forecasting with Macroeconomic Indicators	280
<i>Zijun Fan (Communication University of China, China)</i>	

Digital Radiographic Online Testing Research and Application on Thermal Insulation Pressure Pipeline	285
<i>Xiaoxu Chen (Chongqing Special Equipment Inspection and Research Institute, China), Zhiqiang Duan (Chongqing Special Equipment Inspection and Research Institute, China), Meili Liu (Chongqing Special Equipment Inspection and Research Institute, China), Shengmao Li (Chongqing Special Equipment Inspection and Research Institute, China), Hong Pan (Chongqing Special Equipment Inspection and Research Institute, China), and Penggao Wen (Chongqing Special Equipment Inspection and Research Institute, China)</i>	
Numerical Study on the Impact Resistance Performance of Pressure Pipelines Based on Digital Radiographic Testing	290
<i>Meili Liu (Chongqing Special Equipment Inspection and Research Institute, China), Zhiqiang Duan (Chongqing Special Equipment Inspection and Research Institute, China), Xiaoxu Chen (Chongqing Special Equipment Inspection and Research Institute, China), Lu Chen (Chongqing Special Equipment Inspection and Research Institute, China), and Penggao Wen (Chongqing Special Equipment Inspection and Research Institute, China)</i>	
A Context-Aware AI Framework for Sentiment Analysis in Multicultural and Multilingual Settings	295
<i>Ping Li (Hubei University of Science and Technology, China) and Fangfang Long (Guizhou Normal University, China)</i>	
A Hybrid Neural Network and Monte Carlo Simulation Approach for Digital Radiographic Testing of Insulated Pressure Pipes	300
<i>Zhiqiang Duan (Chongqing Special Equipment Inspection and Research Institute, China; State Administration for Market Regulation, China), Xiaoxu Chen (Chongqing Special Equipment Inspection and Research Institute, China; State Administration for Market Regulation, China), Meili Liu (Chongqing Special Equipment Inspection and Research Institute, China; State Administration for Market Regulation, China), Sida Chen (Chongqing Special Equipment Inspection and Research Institute, China; State Administration for Market Regulation, China), and Jingyong Zhao (Chongqing Special Equipment Inspection and Research Institute, China; State Administration for Market Regulation, China)</i>	
Kalman Filtering Technique Based on Autoregressive Integrated Moving Average Model with Unknown Observation Noise Covariance Matrix	305
<i>Siyuan Xing (Jiangsu Automation Research Institute, China)</i>	
Semantic Alignment Based Contrastive Learning for Vulnerability Severity Classification	310
<i>Wenbo Xu (National University of Defense Technology, China), Jingju Liu (National University of Defense Technology, China), Dongdong Hou (National University of Defense Technology, China), and Shicheng Zhou (National University of Defense Technology, China)</i>	
A Dual-Adversarial Constraint-Based Multi-Modal Medical Image Fusion Model: Optimization Design of U-Net and Symmetric Discriminator	315
<i>Guocai Ma (Qinghai Institute of Technology, China), Qian Zhang (Qinghai University, China), and Qingfeng Yang (Qinghai Institute of Technology, China)</i>	
Design and Application of Library Reading Promotion Algorithm Model for Intelligent Recommendation	322
<i>Yan Liu (Central China Normal University Library, China)</i>	

Geometric Constraints Combined with Sub-Regional Line Bands Descriptors for Linear Array Satellite Remote Sensing Image Line Matching	328
<i>Ping Zhang (Heilongjiang University of Technology, China), Pengcheng Zhao (Heilongjiang University of Technology, China), and Bocheng Xu (Heilongjiang University of Technology, China)</i>	
An Intrusion Detection System for Cloud Computing Based on Adaptive Multi-Layer Collaboration	335
<i>Qian Chai (China Mobile (Suzhou) Software Technology Co., Ltd, China), Haoshuo Wang (China Mobile (Suzhou) Software Technology Co., Ltd, China), Huan Ji (China Mobile (Suzhou) Software Technology Co., Ltd, China), and Dong Yang (China Mobile (Suzhou) Software Technology Co., Ltd, China)</i>	
Blockchain-Based Peer-to-peer Smart Grid Secure Energy Trading and Load Management	341
<i>Ping He (State Grid Hubei Electric Power Co., China), Lei Zhou (State Grid Hubei Electric Power Co., China), Jingwen Wang (State Grid Hubei Electric Power Co., China), Zhuo Yang (State Grid Hubei Electric Power Co., China), Guozhao Lv (State Grid Hubei Electric Power Co., China), and Wei Shu (Hunan Zhuoqun Electric Power Technology Co., China)</i>	
High-Precision Positioning Method for Underwater Robot Based on USBL and Inertial Navigation	347
<i>Zhongnan Zheng (State Grid Fujian Electric Power Research Institute, China), Youcong Huang (State Grid Fujian Electric Power Research Institute, China), Ying Zhang (State Grid Fujian Electric Power Research Institute, China), and Ziqi Lin (State Grid Fujian Electric Power Research Institute, China)</i>	
Target Detection of Rodents in Complex Paddy Field Scenes	352
<i>Jianqi Ding (Harbin Institute of Technology, China), Xinxin Liu (Northeastern University at Qinhuangdao, China), Yini Sun (Harbin Institute of Technology, China), Yuhao Liu (Harbin Institute of Technology, China), Yunxi Zhong (Nanjing University of Aeronautics and Astronautics, China), and Jinglin Wang (Harbin Institute of Technology, China)</i>	
A TLS Security Enhancement Scheme Based on TCM 2.0	356
<i>Yuexin Zhang (Beijing University of Technology, China), Yubo Wang (Beijing University of Technology, China), and Minjun Wu (Changzhou College of Information Technology, China)</i>	
Fault Diagnosis and Prediction of Railway Communication Technology Based on Deep Learning .. 363	
<i>Lin Wang (Wuhan Railway Vocational College of Technology, China)</i>	
A Study of Intelligent Financial Fraud Detection Incorporating Knowledge Graph and Graph Visualisation	368
<i>Huxiang Xu (Guangdong University of Science and Technology, China)</i>	
Optimization of a Federated Learning Model with Adaptive Differential Privacy for Privacy Protection in InsurTech	372
<i>Hui Qiu (Chengdu Jincheng College, China)</i>	
Unmanned Aerial Vehicle Background Cluster Control Combined with Consensus Algorithm and Cooperative Control	376
<i>Xi Yang (Guangdong Power Grid Co., Ltd., China), Yongqiang Tan (Guangdong Power Grid Co., Ltd., China), Chong Gao (Guangdong Power Grid Co., Ltd., China), and Fengyu Qiu (Guangdong Power Grid Co., Ltd., China)</i>	

Location Difference Privacy Mechanism Based on Road Network	381
<i>Jianming Wu (Donghua University, China), Dazhi Hu (Donghua University, China), Bingqi Wang (Henan University of Engineering, China), and Ping Zhao (Donghua University, China)</i>	
A 3D Scene Diversity Cross-Domain Transfer Method Based on Explicit Mesh Radiance Field Representation	386
<i>Xinyu Wang (Zhejiang University, China), Boyan Ji (Zhejiang University, China), Wei Xing (Zhejiang University, China), Huaizhong Lin (Zhejiang University, China), and Lei Zhao (Zhejiang University, China)</i>	
Research on Accountable Multi-Authority Attribute-Based Encryption Scheme in Cloud Computing	391
<i>Jingyu Mao (Institute of Artificial Intelligence Lanzhou Vocational Technical College Lanzhou, China)</i>	
RTSGen: RFC and Traffic-Guided Seed Generation via LLM for Network Protocol Fuzzing	400
<i>Yifan Zhang (National University of Defense Technology, China), Kailong Zhu (National University of Defense Technology, China), Jiazhen Zhao (National University of Defense Technology, China), Yuliang Lu (National University of Defense Technology, China), and Jie Peng (National University of Defense Technology, China)</i>	
Exploration of Post-Quantum Cryptography Application Scenarios in 5G and Evolved Networks ..	407
<i>Xie Lu (Research Institute of China United Network Communications Group Co., Ltd., China), Tao Zheng (China United Network Communications Group Co., Ltd., China), Ran Ge (China United Network Communications Group Co., Ltd., China), Manjun Zhang (Research Institute of China United Network Communications Group Co., Ltd., China), Zecheng Xie (Research Institute of China United Network Communications Group Co., Ltd., China), and Zixiang Lin (Research Institute of China United Network Communications Group Co., Ltd., China)</i>	
Research on the Application of Transformer, GAN and Q-Learning in Piano Improvisational Accompaniment Teaching	416
<i>Jingqiang Wang (Xinjiang Arts University)</i>	
Application of a Deep Learning Model Integrating Multi-Source Logs for Early Detection of APT Attacks	421
<i>Yilin Wang (Hangzhou Jinritoutiao Technology Co., Ltd., China)</i>	
Data-Driven Financial Accounting Process Automation: The Application of PSO-SADE System in Management Accounting	428
<i>Hangyue Yang (Chengdu Neusoft University, China), Yanqi Wang (Chengdu Neusoft University, China), and Yuanyuan Zhao (Chengdu Neusoft University, China)</i>	
Multi-Source Data Fusion-Driven Fast Identification Algorithm for Construction Personnel Contract Consistency	434
<i>Lingjun Li (Shengzhou Municipal Computer Audit Center, China) and Dongling Zhang (Hangzhou Municipal Urban Rail Transit Construction Service Center, China)</i>	

Research on Computer Network Intrusion Detection and Prevention Algorithm Based on WGAN-GP	439
<i>Huihui Li (Heilongjiang Institute of Construction Technology, China), Tian Zhang (Heilongjiang Institute of Construction Technology, China), Guizhou Wu (Heilongjiang Institute of Construction Technology, China), Lili Wu (Heilongjiang Institute of Construction Technology, China), Yanfeng Jing (Heilongjiang Institute of Construction Technology, China), Weifeng Li (Heilongjiang Institute of Construction Technology, China), and Xiaowei Wu (Heilongjiang Institute of Construction Technology, China)</i>	
Design and Optimization of Softswitch System for Shipboard Voice Communication Based on SIP Protocol	445
<i>Haipeng Wang (The Navigation Guarantee Center of North China Sea, Ministry of Transport, China), Shengyu Jiang (The Navigation Guarantee Center of North China Sea, Ministry of Transport, China), Yu Wang (The Navigation Guarantee Center of North China Sea, Ministry of Transport, China), and Yinxin Gao (The Navigation Guarantee Center of North China Sea, Ministry of Transport, China)</i>	
Intelligent Answering Technology of Information Customer Service Integrating BILSTM and MLP	450
<i>Bingjie Wang (State Grid Henan Electric Power Company, China), Weizhi Lu (State Grid Henan Electric Power Company, China), and Haifeng Jia (State Grid Henan Electric Power Company, China)</i>	
Interpretation Discrimination Model Integrating Statistical Features and Deep Semantic Features	455
<i>Dongmei Ge (Heilongjiang Institute of Technology, China) and Jiaming Gao (Harbin Engineering University, China)</i>	
Cross-Border E-Commerce Data Security and Privacy Protection Based on Privacy Protection Nonlinear SVM Multi-Classification Model	461
<i>Yuwen Li (Fujian Chuangzheng Communications College, China) and Heng Li (Fujian Chuangzheng Communications College, China)</i>	
Lightweight Person Re-Identification Network Based on Fine-Grained Feature Localization	466
<i>Gang Wang (Hefei Information Technology University, China)</i>	
Image Information Protection Based on ViT and CNN in Communication Scenario	472
<i>Weilei Wang (Changchun College of Electronic Technology, China)</i>	
MedKGGPT2: A Study on Knowledge Graph-Based Data Generation Methods for Fine-Tuning Large Pharmaceutical Models	477
<i>Yang Gao (Wuhan University of Science and Technology, Wuhan, China), Lin Li (Wuhan University of Science and Technology, Wuhan, China), Tao Li (Wuhan University of Science and Technology, Wuhan, China), Penghui Gu (Wuhan University of Science and Technology, Wuhan, China), Yun Li (Wuhan Haiyun Health Technology Co., Ltd, Wuhan, China), and Liu He (East Lake High-tech Group, Wuhan, China)</i>	
A Computerized Knowledge Graph Construction Method Based on Text Structure and Multilevel Information Sources	483
<i>Maofeng Fan (Xi'an University of Architecture and Technology, Xi'an, china)</i>	

Global-Local Contrastive Learning Method for Fingerprint Feature Extraction of Non-Modern Paintings	488
<i>Xinyu Wang (Zhejiang University, Hangzhou, China), Shuobin Lian (Zhejiang University, Hangzhou, China), Wei Xing (Zhejiang University, Hangzhou, China), Huaizhong Lin (Zhejiang University, Hangzhou, China), and Lei Zhao (Zhejiang University, Hangzhou, China)</i>	
Application of Machine Learning Algorithm in Data Quality Evaluation and Optimization of Information Management System	494
<i>Fenghua Lu (Wuxi Vocational Institute of Commerce, China)</i>	
An Improved Reversible Data Hiding Algorithm Based on Prediction Error Expansion	500
<i>Cheng'e Luo (Wuhan Huaxia Institute of Technology, China), Shuaijie Wu (Wuhan Huaxia Institute of Technology, China), Wei Yan (Hubei Provincial Ecological Environment Monitoring Center Station, China), and Yonghong Su (Wuhan Huaxia Institute of Technology, China)</i>	
Cloud Software Installation Behavior Modeling and Intelligent Licensing Management Mechanism Based on LSTM and Transformer	507
<i>Zhiwei Cai (Beijing Fibrlink Communications Co., LTD., China), Xue Song (Beijing Fibrlink Communications Co., LTD., China), and Lewei Wang (Beijing Fibrlink Communications Co., LTD., China)</i>	
The Application of Dynamic Ultrasound Imaging in Real-time Monitoring of the Rehabilitation Process of the Lateral Ankle Ligament	512
<i>Boyang Li (Beijing Jingbei Vocational and Technical College, China), Xuekun Ding (Beijing Jingbei Vocational and Technical College, China), Qingman Wei (Beijing Jingbei Vocational and Technical College, China), and Zheng Wang (Tianjin University of Sport, China)</i>	
An Intelligent IoT-Based Agricultural Monitoring System with Machine Vision and Distributed Signal Processing	517
<i>Wei Wu (New York University, US) and Yibo Yao (New York University, US)</i>	
A Cybersecurity Text Information Encoding Model Based on Optimized Word2vec	524
<i>Zhengxian Wang (Shenyang Urban Construction University, China) and Jiayi Dai (Shenyang Urban Construction University, China)</i>	
Research on Threat Prediction Method for Smart Grid System Information Domain Based on Graph Neural Network	529
<i>Zhihong Zhang (National University of Defense Technology, China) and Linhao Li (National University of Defense Technology, China)</i>	
Construction of System Log Anomaly Detection and Prediction Model Based on Ensemble Learning	534
<i>Yujia Lin (San Francisco Bay University, USA)</i>	
Multi-Model Regression Fusion Using XGBoost, Random Forest, and SVR for Intelligent Prediction of Electrochemical Performance	540
<i>Luohua Qi (South China University of Technology, China), Junlin Wu (Chengdu University of Information Technology, China), and Jie Li (Belarusian State University, Republic of Belarus)</i>	
Graph-Based Optimization for Urban Wellness Resource Allocation Using GCN and Genetic Algorithms	545
<i>Wenbo Jiang (Zhejiang University, China)</i>	
Multi-Layer Software Compatibility Modeling and IPv6 Adaptation via Graph Neural Networks ..	551
<i>Xuanzhong Wang (Beijing Fibrlink Communications Co., LTD., China), Yanan Zhang (Beijing Fibrlink Communications Co., LTD., China), and Xinwei Huo (Beijing Fibrlink Communications Co., LTD., China)</i>	

Research on Dynamic Plugin Scheduling and Intelligent Switching of IPv4/IPv6 Protocol Stacks Based on Reinforcement Learning	556
<i>Xuanzhong Wang (Beijing Fibrlink Communications Co., LTD., China), Zhutian Li (Beijing Fibrlink Communications Co., LTD., China), and Qian Wang (Beijing Fibrlink Communications Co., LTD., China)</i>	
Adaptive Plugin Architecture Optimization and Cloud-Native Deployment Strategy for AutoML Systems	561
<i>Xuanzhong Wang (Beijing Fibrlink Communications Co., LTD., China), Qian Wang (Beijing Fibrlink Communications Co., LTD., China), and Jinzhao Gao (Beijing Fibrlink Communications Co., LTD., China)</i>	
Knowledge Graph Construction and Intelligent Query Optimization for Digital Calibration Certificates	566
<i>Pengmou Ma (Aviation Industry Corporation of China, China) and Siboliu (Aviation Industry Corporation of China, China)</i>	
Design and Implementation of Network Security Intrusion Detection System Based on Deep Learning	572
<i>Xiaobo Huang (Chinese Flight Test Establishment, Xi'an, China), Hui Zhang (Chinese Flight Test Establishment, Xi'an, China), and Yongzhi Wang (Chinese Flight Test Establishment, Xi'an, China)</i>	
Modeling and Intelligent Verification Mechanism for Communication Systems in Digital Twin Power Grids	577
<i>Xiong Yang (Powerchina Sichuan Electric Power Engineering Co., Ltd. Chengdu, China) and Hua Pu (Powerchina Sichuan Electric Power Engineering Co., Ltd. Chengdu, China)</i>	
Multi-Sensor Data Fusion Methods in Internet of Things	582
<i>Huiting Zhang (Department of Electronic and Communication Engineering, North China Electric Power University, Baoding, China)</i>	
Quantum Randomness-Driven Authentication: A Novel Framework for Ultra-Secure Identity Verification	589
<i>Sheng Chen (State Grid Information & Telecommunication Group CO., LTD., China), Zhiyuan Ye (State Grid Information & Telecommunication Group CO., LTD., China; Anhui Jiyuan Software CO., LTD., China), Zhenya Wang (State Grid Information & Telecommunication Group CO., LTD., China), Da Si (State Grid Information & Telecommunication Group CO., LTD., China), and Ying Han (State Grid Information & Telecommunication Group CO., LTD., China)</i>	
Data Center Energy Consumption Prediction and Optimization Based on Attentional-LSTM and Cutting Plane Method	594
<i>Zhixuan Zhang (Ministry of Natural Resources of the People's Republic of China, China), Wei Huang (China Aero Geophysical Survey and Remote Sensing Center for Natural Resources, China), Wenji Li (China Aero Geophysical Survey and Remote Sensing Center for Natural Resources, China), Yuan Zhang (China Aero Geophysical Survey and Remote Sensing Center for Natural Resources, China), Zhitao Shao (China Aero Geophysical Survey and Remote Sensing Center for Natural Resources, China), Zheng Lian (China Aero Geophysical Survey and Remote Sensing Center for Natural Resources, China), and Yongpeng Yang (China Aero Geophysical Survey and Remote Sensing Center for Natural Resources, China)</i>	

A Unified Framework for Adaptive Audio Encoding and Denoising using Time-Frequency Analysis and a Novel Quality Index	599
<i>Ninghang Zeng (Zhejiang International Studies University, China), Jiajun Tang (Yunnan University, China), Zongyuan Liang (Linyi University, China), and Baiqiang Chen (Sichuan Academy of Social Sciences, China)</i>	
Kernel-Level Behavioral Anomaly Detection Method Based on Multi Source Data Fusion	604
<i>Haojun Xia (University of Chinese Academy of Sciences, China), Chenhan Lin (State Grid Fujian Electric Power Co., Ltd., China), and Wen Ji (Changzhou College of Information Technology, China)</i>	
Multi-Modal Perception and Edge Computing Collaborative Optimization for Mobile Robots: Current Status, Challenges, and Prospects	612
<i>Yanbiao Huang (Guangdong Industry Polytechnic University, China), Bo Fu (Guangdong Industry Polytechnic University, China), and Yuanwei Li (Guangdong Industry Polytechnic University, China)</i>	
Application of Generative AI in Predictive Analysis of Urban Energy Distribution and Traffic Congestion in Smart Cities	620
<i>Ying Lin (Northern Arizona University, USA), Yao Yao (Capinfo Cloud Tech Company Limited, China), Junlin Zhu (PayPal (China) Co., Ltd., China), and Chao He (Amazon China, China)</i>	
Research on MRI Brain Tumor Segmentation Based on Convolutional Neural Networks	624
<i>Letian Yuan (Shandong First Medical University, China) and Yilin Wang (Binzhou Medical University, China)</i>	
Quantum Key Secure Transmission Method for Low Earth Orbit Satellite-to-Ground Communications	631
<i>Zhiyuan Ye (State Grid Information & Telecommunication Group CO., LTD, China; Anhui Jiyuan Software CO., LTD, China), Yucheng Wang (Anhui Jiyuan Software CO., LTD, China), Yuxiang Lv (Anhui Jiyuan Software CO., LTD, China), and Hui Wu (Anhui Jiyuan Software CO., LTD, China)</i>	
An Intelligent Detection Method for Urban Road Defects Based on Deep Residual Network	637
<i>Jingyu Xu (Chengdu College of University of Electronic Science and Technology of China, China), Zhaozhuo Zhang (Chengdu College of University of Electronic Science and Technology of China, China), and Xihuan Pan (Chengdu College of University of Electronic Science and Technology of China, China)</i>	
Unmanned Aerial Vehicle Remote Background Communication Control Technology Based on Joint Optimization and Multi-Objective Regulation	642
<i>Xi Yang (Guangdong Power Grid Co., LTD, China), Shuangshun Yang (Guangdong Power Grid Co., LTD, China), Tianfu Li (Guangdong Power Grid Co., LTD, China), and Guanhua Chen (Guangdong Power Grid Co., LTD, China)</i>	
Chatglm3 Embedded Supply Chain Management Question-and-Answer Chatbot for Intelligent Manufacturing Application	649
<i>Jing Wu (New Pearl Group Co., Ltd., China; Nanjing University, China), Na Wang (Qinghai Institute of Technology, China), and Jianqing Wu (New Pearl Group Co., Ltd., China)</i>	
A Copyright Protection Scheme for Clean Label Backdoor Datasets Based on Adversarial Perturbation and Hidden Networks	657
<i>Guanghua Zhang (Hebei University of Science and Technology, China), Xianghong Wang (Hebei University of Science and Technology, China), and Weifa Liu (Heze University, China)</i>	

Research on Information Security Management System of Coal Mine Based on the Integration of Blockchain and Dual Prevention Mechanism	666
<i>Jun Lin (Qinghai Institute of Technology, China) and Xiaoxiao Liu (Qinghai Institute of Technology, China)</i>	
Keystroke Dynamics Authentication: A Comprehensive AI-Driven Review	677
<i>Baimi Badjoua (Polytechnic University of Mongo, Chad), Daouda Ahmat Mahamat (University of N'Djamena, Chad), and Christophe Rosenberger (ENSICAEN, France)</i>	
Author Index	687