

2024 2nd International Conference on Mechatronics, IoT and Industrial Informatics (ICMIII 2024)

**Melbourne, Australia
12 – 14 June 2024**

Pages 1-484



**IEEE Catalog Number: CFP24GZ5-POD
ISBN: 979-8-3503-8664-6**

**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:	CFP24GZ5-POD
ISBN (Print-On-Demand):	979-8-3503-8664-6
ISBN (Online):	979-8-3503-8663-9

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

CURRAN ASSOCIATES INC.
proceedings
.com

2024 2nd International Conference on Mechatronics, IoT and Industrial Informatics (ICMIII) **ICMIII 2024**

Table of Contents

Message from the General Chair	xxv
--------------------------------------	-----

ICMIII 2024

A Prediction Model of Photovoltaic Power Generation Based on Association Rules and BP-AdaBoost Algorithm	1
<i>Chengjie Wang (North China Electric Power University (Baoding), China)</i>	
Development of a Machine Learning-Based Classification Model for Traditional Chinese Medicine Syndrome Differentiation in Wilson Disease	7
<i>Saiwei Xing (Anhui University of Chinese Medicine, China), Jie Chang (Wannan Medical College, China), and Yongsheng Han (The First Affiliated Hospital of Wannan Medical College, China)</i>	
Study on the Leakage Detection of Clean Air Insulated Switchgear Based on Isotope Tracer Technology	13
<i>Shaowei Chen (State Grid Wuxi Power Supply Company, China), Pengfei Xu (State Grid Wuxi Power Supply Company, China), Xinyang Zhou (State Grid Wuxi Power Supply Company, China), Dong Li (State Grid Wuxi Power Supply Company, China), Xuan Jiang (State Grid Wuxi Power Supply Company, China), Jiarong Yu (State Grid Wuxi Power Supply Company, China), Weimin Tang (State Grid Wuxi Power Supply Company, China), Hui Ouyang (Hubei Yizhihang Technology Co., Ltd., China), Jianping Qu (Hubei Yizhihang Technology Co., Ltd., China), Wei Qi (Hubei Yizhihang Technology Co., Ltd., China), Xiaobin Jia (Hubei Yizhihang Technology Co., Ltd., China), and Yang Ruan (Hubei Yizhihang Technology Co., Ltd., China)</i>	

Research on the Design of Zero-Carbon Environmental-Friendly GIS Leakage Detection Technology	18
<i>Pengfei Xu (State Grid Wuxi Power Supply Company, China), Shaowei Chen (State Grid Wuxi Power Supply Company, China), Xinyang Zhou (State Grid Wuxi Power Supply Company, China), Dong Li (State Grid Wuxi Power Supply Company, China), Xuan Jiang (State Grid Wuxi Power Supply Company, China), Jiarong Yu (State Grid Wuxi Power Supply Company, China), Weimin Tang (State Grid Wuxi Power Supply Company, China), Hui Ouyang (Hubei Yizhihang Technology Co., Ltd., China), Jianping Qu (Hubei Yizhihang Technology Co., Ltd., China), Xiaobin Jia (Hubei Yizhihang Technology Co., Ltd., China), Wei Qi (Hubei Yizhihang Technology Co., Ltd., China), and Yang Ruan (Hubei Yizhihang Technology Co., Ltd., China)</i>	
Research on Influence of Structural Size Parameters on Magnetic Field Characteristics of Coil Type Vacuum Interrupter Contact Gap	22
<i>Jingxia Huang (Test and Research Institute Guangzhou Power Supply Bureau Guangdong Power Grid Co., Ltd, China), Haibo Su (Test and Research Institute Guangzhou Power Supply Bureau Guangdong Power Grid Co., Ltd, China), Yong Wang (Test and Research Institute Guangzhou Power Supply Bureau Guangdong Power Grid Co., Ltd, China), Junxiang Liu (Test and Research Institute Guangzhou Power Supply Bureau Guangdong Power Grid Co., Ltd, China), Le Gu (Test and Research Institute Guangzhou Power Supply Bureau Guangdong Power Grid Co., Ltd, China), Jianbin Ye (Test and Research Institute Guangzhou Power Supply Bureau Guangdong Power Grid Co., Ltd, China), and Lin Yu (Test and Research Institute Guangzhou Power Supply Bureau Guangdong Power Grid Co., Ltd, China)</i>	
Research on Full 3D Design of Large Ship Electrical System	26
<i>Fei Li (Wuhan Second Institute of Ship Design and Research, China), Weibo Pan (Wuhan Second Institute of Ship Design and Research, China), Wei Xiong (Wuhan Second Institute of Ship Design and Research, China), and Sheng Li (Wuhan Second Institute of Ship Design and Research, China)</i>	
Application Research of 6G-Based Digital Twins in Smart Cities	30
<i>Wenmin Wang (China Mobile Online Service Co., Ltd., China), Chunya Li (China Mobile Online Service Co., Ltd., China), Shenghui Li (China Mobile Online Service Co., Ltd., China), Peilin Zhang (China Mobile Online Service Co., Ltd., China), and Ming Cheng (China Mobile Online Service Co., Ltd., China)</i>	
Research on Snapshot GISC Hyperspectral Image Analysis Technology Based on Mean Filtering Algorithm	35
<i>Zhuo Liu (Changchun College of Electronic Technology, China; Jilin Engineering Normal University, China), Xinyang Li (Jilin Engineering Normal University, China), and Meixuan Li (Jilin Engineering Normal University, China)</i>	

Research on Carbon Footprint Model of Transformer Products Based on Life Cycle	40
<i>Shuzhen Li (China Electric Power Research Institute, China), Chao Liu (China Electric Power Research Institute, China), Jishuang Jiang (Construction Branch of State Grid Zhejiang Electric Power Co., Ltd, China), Feng Zhang (Construction Branch of State Grid Zhejiang Electric Power Co., Ltd, China), and Jing Li (China Electric Power Research Institute, China)</i>	
Damper Control Method and Application Based on Furnace Burnout Air Temperature Monitoring .	47
<i>Weixi Jiang (Jilin Electric Power Research Institute, Co., Ltd., China), Zhongyan Wang (Jilin Electric Power Research Institute, Co., Ltd., China), Zhiyu Song (Jilin Electric Power Research Institute, Co., Ltd., China), Shuai Guo (Jilin Electric Power Research Institute, Co., Ltd., China), Mingliang Zhao (Jilin Electric Power Research Institute, Co., Ltd., China), and Xiu Liu (Jilin Electric Power Research Institute, Co., Ltd., China)</i>	
Adaptive Response Technology for Threats in Power IoT Terminals Based on Reinforcement Learning	52
<i>Changhua Sun (State Grid Zhejiang Electric Power Co., Ltd. Research Institute, China), Xin Sun (State Grid Zhejiang Electric Power Co., Ltd. Research Institute, China), Yifeng Wang (State Grid Zhejiang Electric Power Co., Ltd. Research Institute, China), Hua Dai (State Grid Zhejiang Electric Power Co., Ltd. Research Institute, China), Futai Zou (Shanghai Jiao Tong University, China), and Mingyi Huang (Shanghai Jiao Tong University, China)</i>	
Algorithm for Rice Plant Counting Based on Attention Mechanism	58
<i>Riru Zhang (Liaoning Academy of Agricultural Sciences, China) and Yu Miao (Liaoning Academy of Agricultural Sciences, China)</i>	
V-APT: Action Recognition Based on Image to Video Prompt-Tuning	63
<i>Jiangjiang Lan (Tianjin University of Technology, China) and Tiantian Yuan (Tianjin University of Technology, China)</i>	
Research on Life Prediction of Rolling Bearings Based on Analog-Digital Hybrid Drive System	68
<i>Jinghua Ma (Chongqing University of Technology, China), Jixuan Ma (Chongqing University of Technology, China), Lai Wei (Chongqing University of Technology, China), Echuan Yang (Chongqing University of Technology, China), Xiaoxia Yu (Chongqing University of Technology, China), and Yu Xin (Chongqing University of Technology, China)</i>	
Evaluation of Target Thermal Infrared Camouflage Effect Based on Image Similarity	74
<i>Qi Lyu (Army Engineering University of PLA, China), Ling Li (Army Engineering University of PLA, China), Yong Wang (Naval University of Engineering, China), Hao Ren (PLA No.61606 Troop, China), Zhaoyang Cai (PLA No.61606 Troop, China), and Bentian Hao (Army Engineering University of PLA, China)</i>	
A Language Evolution Model Based on Feature Competitions	78
<i>Zhengze Li (Shanghai World Foreign Language Academy, China)</i>	

License Plate Detection and Recognition Based on Deep Learning	86
<i>Xuchen Wang (China Jiliang University, China), Shuchang Hong (Ningbo University, China), Jialin Li (China Jiliang University, China), Yipeng Zhao (China Jiliang University, China), Chenghong Xiang (Tianjin University of Science and Technology, China), and Xi'ai Chen (China Jiliang University, China)</i>	
Yield Prediction Model of Spinneret Buds Based on Stacking Algorithm	91
<i>Wenhao Wu (Liaoning Forestry Development Service Center, China) and Yu Miao (Liaoning Academy of Agricultural Sciences, China)</i>	
Student Achievement Prediction Based on NN-Stacking Model with Hyperparameter Optimization	96
<i>Jing Dong (Army Artillery and Air Defense Forces Academy, China), Zhenting Wan (Army Artillery and Air Defense Forces Academy, China), Jiang Wu (Army Artillery and Air Defense Forces Academy, China), Wenyu Dong (Army Artillery and Air Defense Forces Academy, China), Tianxu Ma (Army Artillery and Air Defense Forces Academy, China), and Yang Zhan (Army Artillery and Air Defense Forces Academy, China)</i>	
Research on Automatic Extraction Strategy of Text Knowledge Graph Based on Gephi	101
<i>Shuaitao Ren (Southwest Forestry University, China), Chuang Kong (Southwest Forestry University, China), Hongwei Wang (Southwest Forestry University, China), and Hua Zhou (Southwest Forestry University, China)</i>	
Opportunities and Challenges of YOLO -World in Smart City Surveillance	106
<i>Qiwei Yang (Southwest Forestry University, China), Lei Song (Southwest Forestry University, China), and Hua Zhou (Southwest Forestry University, China)</i>	
Visual Analytic Study on Image Restoration Research Driven by CiteSpace	111
<i>Hongwei Wang (Southwest Forestry University, China), Chuang Kong (Southwest Forestry University, China), Shuaitao Ren (Southwest Forestry University, China), and Hua Zhou (Southwest Forestry University, China)</i>	
Design of Centralised Remote Intelligent Inspection System for Substations	116
<i>Xinjie Zhao (Zhuhai Unitech Power Technology Co., Ltd, China) and Yibo Guo (Beijing University of Posts and Telecommunications, China)</i>	
Tool Swing Angle Control for Multi-Axis Machining of Molars	121
<i>Hao Wen (Guangdong Polytechnic of Science and Technology, China), Yaohua Fan (Guangdong Polytechnic of Science and Technology, China), and Suibin Liu (Guangdong Polytechnic of Science and Technology, China)</i>	
An Artificial Intelligence-Based Segmentation Auxiliary Diagnostic System for Focal Liver Lesions	126
<i>Jingjun Gu (Zhejiang University, China), Zhi Yu (Zhejiang University, China), Wei Zhang (Zhejiang University, China), and Haoyu Hu (Zhejiang University, China)</i>	
Election Method of Notary Group Based on Block-out Memory	131
<i>Xiaoyu Huang (University of South China, China) and Minsheng Tan (University of South China, China)</i>	

A Novel Feature Attention Network for Single Image Dehazing	136
Yue Yang (Beijing Foreign Studies University, China), Fengdan Lao (Network Technology Center China Agriculture University, China), Chengtao Zhao (Beijing Foreign Studies University, China), and Weichao Yi (Beijing Institute of Technology, China)	
Music Generation Model Based on WGAN Network and Multi-Scale Null Convolution Module ...	141
Ziyi Yang (Beijing Academy, China)	
Deep Learning for Daily 10-m Wind Downscaling	146
Kaixiang Fu (Yunnan Electric Dispatching and Control Center, China), Shuyan Ding (Nanjing University of Information Science and Technology, China), Linbo Zhang (Yunnan Electric Dispatching and Control Center, China), Mengting Pan (Nanjing University of Information Science and Technology, China), Xiefei Zhi (Nanjing University of Information Science and Technology, China), and Jie Zhang (Yunnan Electric Dispatching and Control Center, China)	
Exploration of AIGC-Assisted Reform in Linux Operating System Curriculum Teaching	151
Meirong Lin (Hainan Vocational University of Science and Technology, China), Zhiguo Zheng (Hainan University, China), and Jie Chen (Hainan Vocational University of Science and Technology, China)	
Study on DZSOC Algorithm of LiFePO ₄ Batteries	156
Xuepeng Liu (Foshan Polytechnic, China), Jianping Chen (Foshan Polytechnic, China), and Guanming Lu (Foshan Polytechnic, China)	
Study on Kalman Filtering for LOC Parameters	159
Xuepeng Liu (Foshan Polytechnic, China), Jianping Chen (Foshan Polytechnic, China), and Guanming Lu (Foshan Polytechnic, China)	
Patent Plagiarism Identification Model Based on Multi-Dimensional Similarity Fusion Using Multi-Sim SBERT	163
Zexi Lin (Guangdong University of Finance and Economics, China) and Yongluo Shen (Guangdong University of Finance and Economics, China)	
Deep Remote Sensing Object Detection for Smart City Applications	167
Siyu Zhu (Jinan Foreign Language School, China) and Kai Yang (Wuhan University of Technology, China)	
Exploring Lane Change Style Recognition Through Analysis of Latent Driving Behavior	172
Shuai Gu (Wuhan University of Technology, China) and Yufei Yang (Black Sesame International Holding Limited, China)	
Design and Implementation of Inspection Robot for Coke Oven Ventilation Equipment	177
Wenlong Jia (Machinery Technology Development Co Ltd, China)	
Research on Automatic Recognition Algorithm of Bridge Bearing Diseases Based on Improved YOLOv8	181
Aiquan Peng (Guizhou Communications Polytechnic, China) and Jie Deng (Guizhou Communications Polytechnic, China)	
Research on Conveyor Belt Slip Detection Using Optical Flow Technique and Encoder	188
Zhanheng Tang (Nanning Cigarette Factory, China Tobacco Industry Co., Ltd., China), Hanzhang Huang (Nanning Cigarette Factory, China Tobacco Industry Co., Ltd., China), and Xie Jing (Nanning Cigarette Factory, China Tobacco Guangxi Industry Co., Ltd., China)	

Research on Surface Defect Detection of Aluminum Profile Based on Attention Mechanism ResNet	194
<i>Zhichao Huang (Donghua University, China), Zixuan Liu (Donghua University, China), Haibo Yin (Donghua University, China), Zhuoyang Song (Donghua University, China), and Jiao Tian (Donghua University, China)</i>	
The Security of RIP and IS-IS Routing Protocols: Research on Routing Attack Experiment	202
<i>Xuedong Wu (Beijing University of Posts and Telecommunications, China), Wenchuan Yang (Beijing University of Posts and Telecommunications, China), Baojiang Cui (Beijing University of Posts and Telecommunications, China), Haoran Yu (Beijing University of Posts and Telecommunications, China), and Runqi Sui (Beijing University of Posts and Telecommunications, China)</i>	
Research on Text Sentiment Classification and Recognition Based on Improved BiLSTM and TextCNN	210
<i>Qiupeng Li (University of New South Wales, Australia)</i>	
Design of Static Accuracy Testing System for Harmonic Reducer	220
<i>Jingjing Di (Beijing Spacecrafts, China), Yun Li (Beijing Spacecrafts, China), Ke Mei (Beijing Spacecrafts, China), and Peng Chen (Beijing Spacecrafts, China)</i>	
Research on Information Extraction of LCSTS Dataset Based on an Improved BERTSum-LSTM Model	226
<i>Yiming Chen (Donghua University, China), Haobin Chen (Donghua University, China), Simin Liu (Donghua University, China), Yunyun Liu (Donghua University, China), Fanhao Zhou (Shanghai University of Medicine & Health Sciences, China), and Bing Wei (Donghua University, China)</i>	
Research on the Design and Implementation of Generative Adversarial Network Attack Detection in Complex Network Environments	232
<i>Juncong Zhong (Guangdong Business and Technology University, China)</i>	
Research on the Application of Ant Colony Algorithm in Optimizing Transportation Routes in Cold Chain Logistics	238
<i>Jierui Luo (Guangdong Business and Technology University, China)</i>	
Research on Clothing Style Online Design Subsystem of Oracle Database Based on J2EE and UML Technology	244
<i>Wangqin Luo (Anhui Sanlian University, China)</i>	
Research on AI-Driven Virtual Character Modeling Technology Through UV Seagull Algorithm ...	249
<i>Junyan Deng (Chengdu Neusoft University, China)</i>	
Application of Micro Station and Image Station SSK Technology in Landscape Visualization System	255
<i>Xinru Nie (Hubei University of Technology, China) and Wei Zhang (Hubei University of Technology, China)</i>	

Study on Full Flow Test Intelligent Analysis System of Emergency Feed Pump in Nuclear Power Plant by CFD Simulation	260
<i>Xiaolei Zhao (CGN Digital Technology Co., LTD, CGNPC, China), Qingming Wang (CGN Digital Technology Co., LTD, CGNPC, China), Chao Gao (CGN Digital Technology Co., LTD, CGNPC, China), Xianjun Song (CGN Digital Technology Co., LTD, CGNPC, China), and Xincai Chang (CGN Digital Technology Co., LTD, CGNPC, China)</i>	
Research on Visual Story Generation Algorithm Based on Fine-Grained Visual Features and Knowledge Graphs	265
<i>Xiaohu Zhang (General Education College of Xi'an Eurasia University, China) and Hua Zhao (Library and Information Center of Xi'an Eurasia University, China)</i>	
Machine Learning Algorithm Based Prediction of Players' Scores in Tennis Matches	270
<i>Cheng Zhang (Beihang University, China)</i>	
Momentum Representation Advantage Reversal Prediction Based on Data-Driven and KS-RF-XGBoost Model	274
<i>Jianting Ye (South China University of Technology, China), Wenwen Zhang (South China University of Technology, China), and Haoyu Liu (South China University of Technology, China)</i>	
Financial Risk Assessment Model Based on Computer Data Privacy Protection	280
<i>Jianjie Huang (Sanda University, China)</i>	
Research on Disaster Insurance Based on Long Short Term Memory Neural Network (LSTM) and ARAM	285
<i>Yuxuan Cheng (South China Normal University, China)</i>	
A Study of Tennis Match Momentum Based on Machine Learning and the Trueskill-H Algorithm .	292
<i>Jianan Li (China University of Mining and Technology, China), Yichen Wu (China University of Mining and Technology, China), and Kunhua Huang (China University of Mining and Technology, China)</i>	
A Study of Tennis Momentum Based on K-Means++ and LightGBM Models	298
<i>Jing Gong (Sun Yat-sen University, China)</i>	
A Study of Tennis Momentum Based on Logistic-XGBoost Hybrid Models and ARIMA	304
<i>Zixian Jiang (Tongji University, China), Siyu Lu (Tongji University, China), and Mingyu Chen (Tongji University, China)</i>	
Research on the Development of Image Segmentation Based on Deep Learning	310
<i>Kefeng He (China Energy Engineering Group Gansu Electric Power Design Institute Co., Ltd, China), Wei Peng (China Energy Engineering Group Gansu Electric Power Design Institute Co., Ltd, China), Yang Zhang (China Energy Engineering Group Gansu Electric Power Design Institute Co., Ltd, China), and Peipei Pei (China Energy Engineering Group Gansu Electric Power Design Institute Co., Ltd, China)</i>	
Research on Image Processing Algorithms Based on Variational and Deep Learning	317
<i>Xiaoxu Zhang (Heilongjiang Polytechnic, China)</i>	
Design of Micro-Seismic Ground Monitoring System Based on Genetic Algorithm	322
<i>Qiong Tong (Hunan Earthquake Agency, China), Min Tong (Hunan Earthquake Agency, China), Chengxu Kang (Hunan Earthquake Agency, China), and Xiaohan Zhang (Hunan Earthquake Agency, China)</i>	

Momentum Analysis Based on BP Neural Network and Topsis Model	327
<i>Wen Teng (China University of Geosciences, China)</i>	
Research on Overseas Live Commentary Model Based on Computer Natural Language Intelligent Processing Technology	333
<i>Weiting Feng (Guangzhou College of Business and Technology, China)</i>	
Research on 3D Modeling Based on Improved YOLOv7—A Case Study of Nanshitou Water Supply Department Site in Guangzhou	338
<i>Yanli Chen (Software Engineering Institute of Guangzhou, China) and Zhonglin Tang (Guangzhou University Architectural Design and Research Institute Co., Ltd, China)</i>	
Target Tracking Analysis of Physical Exercise Video Based on Object Detection Algorithm	343
<i>Chunmiao Xu (Qiqihar Medical University, China)</i>	
Application of Artificial Intelligence and Speech Recognition Technology in English Listening and Speaking Ability Assessment System	348
<i>Chunxiu Yu (Guangzhou Huashang Vocational College, China)</i>	
An Improved Semi-Supervised Learning Algorithm Used for Classification Prediction	353
<i>Shucong Li (Tianjin University of Technology, China) and Yujiao Zhan (Tianjin University of Technology, China)</i>	
Study on Ship Structural Health Monitoring System Based on Computer Artificial Intelligence Vibration Technology	359
<i>Zhenwang Lv (Dalian Scientific Test and Control Technology Institute, China), Yang Song (Dalian Scientific Test and Control Technology Institute, China), Bo Liu (Dalian Scientific Test and Control Technology Institute, China), Zhaoran Meng (Dalian Scientific Test and Control Technology Institute, China), and Fuxiang Yu (Dalian Scientific Test and Control Technology Institute, China)</i>	
Research on Computer Aided Ship Intelligent Cruise System	364
<i>Baicheng Yang (Dalian Maritime University, China)</i>	
Optimization of Fan Assembly Problem Based on NEH and NSGA-II Algorithms	369
<i>Lingling Zhang (Beijing Institute of Technology, China), Cong Chen (Beijing Institute of Technology, China), and Zenan Li (Beijing Institute of Technology, China)</i>	
Research on Horizontal Well Capacity Grade Prediction Model by Integrating BP Neural Network and Migration Learning Algorithm	374
<i>Haibiao Wang (China Oilfield Services Limited, China), Yancai Gao (China Oilfield Services Limited, China), Zheng Yuan (China Oilfield Services Limited, China), Kaixing Li (China Oilfield Services Limited, China), Mingyue Pang (China Oilfield Services Limited, China), and Jinna Xia (China Oilfield Services Limited, China)</i>	
Research on Student Vocational Ability Evaluation Model Based on Big Data and Machine Learning	379
<i>Yan Tang (Shenzhen Institute of Technology, China), Lei Zheng (Shenzhen Institute of Technology, China), Lijuan Chen (Shenzhen Institute of Technology, China), and Lu Zhu (Shenzhen Institute of Technology, China)</i>	

Research on the Health Status Evaluation Model of Real Vehicle Power Battery Based on Attention-GRU Algorithm	384
<i>Dinghong Liu (CATARC Automotive Test Center (Changzhou) Co., Ltd., China; Jiangsu Province Engineering Technology Research Center of Optical Storage, Charging and Testing Integrated R&D and Application, China), Wenkai Dong (CATARC Automotive Test Center (Changzhou) Co., Ltd., China; Jiangsu Province Engineering Technology Research Center of Optical Storage, Charging and Testing Integrated R&D and Application, China), Zhaoyang Li (CATARC Automotive Test Center (Changzhou) Co., Ltd., China; Jiangsu Province Engineering Technology Research Center of Optical Storage, Charging and Testing Integrated R&D and Application, China), and Xin Qi (CATARC Automotive Test Center (Changzhou) Co., Ltd., China; Jiangsu Province Engineering Technology Research Center of Optical Storage, Charging and Testing Integrated R&D and Application, China)</i>	
Application of Deep Learning Methods in the Intelligent Analysis of Sprint Training Postures	393
<i>Junjie Liu (Shanghai University of Sport, China)</i>	
Research on Submersible Safety Procedures Through Bayesian Inference	399
<i>Ming Chen (Taiyuan University of Technology, China), Haoyang Guo (Taiyuan University of Technology, China), Xiaoqing Jiang (Taiyuan University of Technology, China), Yu Wang (Taiyuan University of Technology, China), and Yijing Wang (Taiyuan University of Technology, China)</i>	
Design Scheme of a Full-Stack Cloud Service Platform Based on Container Virtualization	408
<i>Fuming Yang (Guangxi Beitou IT Innovation Technology Investment Group Co., Ltd, China), Hua Pan (Guangxi Beitou IT Innovation Technology Investment Group Co., Ltd, China), Gangrong Wei (Guangxi Beibu Gulf Investment Group Co., Ltd, China), and Qifeng Chen (Guangxi Beitou Traffic Maintenance Technology Group Co., Ltd., China)</i>	
Research on Momentum Analysis Based on PSO-BP Neural Network and Decision Tree	414
<i>Jiayi Chen (Zhejiang Sci-Tech University, China), Qianjun Bao (Zhejiang Sci-Tech University, China), and Yingjun Chen (Zhejiang Sci-Tech University, China)</i>	
Wildlife Development Prediction Based on Big Data and Bayesian Logistic Regression	419
<i>Jintong Yang (Zhuhai College of Science and Technology, China), Yiling Guo (Zhuhai College of Science and Technology, China), and Xinling Cai (Zhuhai College of Science and Technology, China)</i>	
Construction Monitoring of Power Grid Engineering Based on UAV Remote Sensing Images	424
<i>Zhuoqun Zhang (State Grid Economic and Technological Research Institute Co., Ltd., China), Wenjun Han (State Grid Economic and Technological Research Institute Co., Ltd., China), Jingguo Rong (State Grid Economic and Technological Research Institute Co., Ltd., China), Haibo Liu (State Grid Economic and Technological Research Institute Co., Ltd., China), and Weijing Ma (State Grid Economic and Technological Research Institute Co., Ltd., China)</i>	

Adaptability Analysis of Object Recognition for Mechanized Construction of Power Grid Engineering Based on Image Super-Resolution Reconstruction	429
<i>Xiaobin Zheng (State Grid Jibei Electric Power Co., Ltd., Engineering Management Company, China), Chunming Duan (State Grid Jibei Electric Power Co., Ltd., Engineering Management Company, China), Lin Liu (Twenty First Century Aerospace Technology Co., Ltd, China), Yu Zhang (State Grid Jibei Electric Power Co., Ltd., Engineering Management Company, China), Jianjun He (Twenty First Century Aerospace Technology Co., Ltd, China), Chengwei Wu (State Grid Jibei Electric Power Co., Ltd., Engineering Management Company, China), and Jiefeng Liu (State Grid Jibei Electric Power Co., Ltd., Engineering Management Company, China)</i>	
Analysis of Illegal Wildlife Trade Based on ARIMA Algorithm and BiLSTM-Attention Model	434
<i>Shangshen Wang (Beihua University, China), Yunjian Wu (Beihua University, China), Yonglin Lv (Beihua University, China), and Jiajie Zheng (Guangdong Pharmaceutical University, China)</i>	
Prediction and Study of Illegal Wildlife Trade Based on ESI-ARIMA Algorithm and SPELIT Differential Equation Model	439
<i>Xianqi Dai (Chang'an University, China), Mingxian Wen (Chang'an University, China), and Ruiheng Li (Chang'an University, China)</i>	
Computer Intelligence System Based on Interval Mathematical Control Algorithm	444
<i>Yanwu Liu (Beijing Polytechnic, China)</i>	
Research on Financial Time Series Risk Assessment Model Based on Computer Deep Learning	450
<i>Xiaodong Huang (Shanghai University of Political Science and Law, China)</i>	
Optimization of Vehicle Routing Problem Based on Tabu Search Algorithm	454
<i>Wei Guo (University of Science and Technology Liaoning, China), Suijin Rong (University of Science and Technology Liaoning, China), Hao Liu (University of Science and Technology Liaoning, China), and Jiaming Yuan (University of Science and Technology Liaoning, China)</i>	
Research on Computer Network Information System Security Model and Mathematical Evaluation.....	458
<i>Yanwu Liu (Beijing Polytechnic, China)</i>	
Wildlife Status Study Based on ARIMA Time Prediction Model and Pearson's Correlation Coefficient	464
<i>Qiyuan Luo (Yangzhou University, China)</i>	
Simulation and Analysis of Fire Escape Scenarios Based on Computer Visual Modeling and PyroSim Computer Simulation	469
<i>Heyang Jiang (China People's Police University, China)</i>	
Differences in Electroencephalogram Signals Evoked by Nasal and Oral Breathing	474
<i>Danyang Lv (Chinese Academy of Sciences, China), Xikun Zhang (Chinese Academy of Sciences, China), Xingwei Wang (Chinese Academy of Sciences, China), Ningling Zhang (Chinese Academy of Sciences, China), Yunjie Zhang (Chinese Academy of Sciences, China), Zhiyong Wang (Chinese Academy of Sciences, China), Tian Xia (Chinese Academy of Sciences, China), Fulai Peng (Chinese Academy of Sciences, China), and Cai Chen (Chinese Academy of Sciences, China)</i>	

Photovoltaic Power Prediction Based on Feature Fusion and LightGBM	481
<i>Siwei Zhou (Shanghai University of Electric Power, China), Yimeng Shen (Shanghai University of Electric Power, China), and Tingting Wen (Shanghai University of Electric Power, China)</i>	
Application of Computer Cognitive Large Model in Substation Equipment Fault Prediction	485
<i>Nan Zhang (NARI Group Co., Ltd, China), Wenqiang Zhang (NARI Group Co., Ltd, China), and Zhen Sun (NARI Group Co., Ltd, China)</i>	
Artificial Intelligence-Based Aggregation and Interaction of Massive Energy Storage Resources	490
<i>Jiuzhou Yu (State Grid New Energy Cloud Technology Co., Ltd., China), Yiyao Song (State Grid New Energy Cloud Technology Co., Ltd., China), Yuxin Wang (State Grid New Energy Cloud Technology Co., Ltd., China), Jianhua Qin (State Grid New Energy Cloud Technology Co., Ltd., China), Xu Zhang (State Grid New Energy Cloud Technology Co., Ltd., China), Zhi Yin (State Grid Digital Technology Holding Co., Ltd., China), and Kai Yang (State Grid New Energy Cloud Technology Co., Ltd., China)</i>	
A Study of Tennis Momentum Analysis Based on Random Forest and Logistic Regression Models	494
<i>Yanwen Chen (Hohai University, China), Guoxuan Sun (Hohai University, China), and Lei Ge (Hohai University, China)</i>	
Design and Application of Beijing Subway Meteorological Digital Intelligent Platform	499
<i>Yan Dong (Beijing Meteorological Service Center, China), Naijie Li (Beijing Meteorological Service Center, China), Caihua Ye (Beijing Meteorological Service Center, China), Chenxi Jin (Beijing Meteorological Service Center, China), and Fang Wu (Beijing Meteorological Service Center, China)</i>	
Research on Tennis Match Momentum Analysis Based on Random Forest and Hidden Markov Model	503
<i>Yu Fu (Hohai University, China), Zichen Wang (Hohai University, China), and Zekun Li (Hohai University, China)</i>	
Computing the Laser Radar Cross Section of the Typical Object	508
<i>Yun Wang (Wuhan Second Ship Design and Research Institute, China), Liang Dong (Wuhan Second Ship Design and Research Institute, China), and Jianwei Wu (Wuhan Second Ship Design and Research Institute, China)</i>	
A Study of the Impact of Tennis Momentum Based on Markov and Decision Tree Models	511
<i>Yitian Cai (Northwestern Polytechnical University, China), Liyuan Yu (Northwestern Polytechnical University, China), Yuchang Ji (Northwestern Polytechnical University, China), Chichi Yang (Northwestern Polytechnical University, China), and Yueyue Tao (Northwestern Polytechnical University, China)</i>	
Research on the Application of Artificial Intelligence and Virtual Reality Technology in Intelligent Education Interactive System	517
<i>Chao Wang (Guangzhou Huashang Vocational College, China), Xuxi Yin (Guangzhou Huashang Vocational College, China), and Zhe Wang (Guangzhou Huashang Vocational College, China)</i>	
Application of Blockchain Technology and TCN-IS Model on Financial Risk in Universities	522
<i>Yue Hu (Wuhan University of Science and Technology, China)</i>	

Research on the Application of Knowledge Management System and Digital Service in Smart Grid	527
<i>Liangbo Zeng (Management Science Research Institute of Guangdong Power Grid Co., China), Yadong Shi (Management Science Research Institute of Guangdong Power Grid Co., China), Liang Li (Management Science Research Institute of Guangdong Power Grid Co., China), Junwei Zhu (Management Science Research Institute of Guangdong Power Grid Co., China), and Rongyin Tan (Management Science Research Institute of Guangdong Power Grid Co., China)</i>	
Application of Computer Numerical Simulation and Machine Learning to the Performance Test Model of Modified Asphalt	532
<i>Lijuan Wang (Shandong University of Engineering and Vocational Technology, China), Xue Li (Shandong University of Engineering and Vocational Technology, China), Jianying Weng (Shandong University of Engineering and Vocational Technology, China), Xiangguang Meng (Jinan Municipal Engineering Design and Research Institute (Group) Co., Ltd., China), and Bo Liu (Shandong University of Engineering and Vocational Technology, China)</i>	
The Research of Design-Implementation and Precision Analysis Based on Shipborne Infrared Radiation Measurement System	538
<i>Xiaodong Sun (China Satellite Maritime Tracing and Controlling Department, China), Xinming Liu (China Satellite Maritime Tracing and Controlling Department, China), Cailing Wang (China Satellite Maritime Tracing and Controlling Department, China), Ke Li (China Satellite Maritime Tracing and Controlling Department, China), Haiyuan Zhou (China Satellite Maritime Tracing and Controlling Department, China), Lijian Zhao (China Satellite Maritime Tracing and Controlling Department, China), and Ruxiang Xu (China Satellite Maritime Tracing and Controlling Department, China)</i>	
Research on Interactive Platform of Intelligent Speech and Image in Higher Vocational College Classroom Based on Computer Assistance	541
<i>Jing Lv (Hunan Chemical Vocational Technology College, China)</i>	
Research on Basketball Shooting Action Recognition and Optimization System Based on Deep Learning	546
<i>Xinnian Cheng (Jieyang Polytechnic, China) and Zhonghui Li (Jieyang Polytechnic, China)</i>	
Application Research of 3D Printing Assistance System Based on Artificial Intelligence Technology	552
<i>Xue Wei (Wuhan Polytechnic, China)</i>	
Design and Implementation of Tourism Management System Based on Android Platform	557
<i>Longlong Liu (Weifang Engineering Vocational College, China) and Jiaoyue Li (Weifang Engineering Vocational College, China)</i>	
Research and Design of an Adaptive Mechanical Control System Based on Hysteresis Control	562
<i>Shoujie Hu (China University of Petroleum-Beijing at Karamay, China) and Haiyang Tang (China University of Petroleum-Beijing at Karamay, China)</i>	

Research on Momentum Dynamic Prediction Based on BP Neural Network and Support Vector Machine Algorithm	567
<i>Wenhao Yu (Shandong University, China), Henan Wan (Shandong University, China), and Zekun Yang (Shandong University, China)</i>	
Research on Pricing and Replenishment Decision Making Based on ARIMA Time Series and Apriori Algorithm	573
<i>Na Wu (China University of Geosciences, China), Xinrui Rao (China University of Geosciences, China), and Donglin Li (China University of Geosciences, China)</i>	
Research on Pattern Recognition of Urban and Rural Consumption Behavior Based on Machine Learning and Its Application in Digital Economy	578
<i>Xiaowei Mu (Changchun Humanities and Sciences College, China), Yan Liu (Changchun Humanities and Sciences College, China), Zhijun Sheng (Changchun University of Science and Technology, China), and Jiahui Chen (Changchun Humanities and Sciences College, China)</i>	
Research on Adaptive Filtering Collaborative Graph Optimization Navigation Method	583
<i>Qunyang Wang (Space Star Technology Co., Ltd, China)</i>	
Volleyball Game Tactical Data Prediction System Using Computer Vision Technology	588
<i>Jingguang Xie (Guangdong University of Science and Technology, China) and Xinnian Cheng (Jieyang Polytechnic, China)</i>	
Transmission Expansion Planning Based on the Penalty Cost of Short-Circuit Current	595
<i>Yue Wu (Power Grid Planning Research Centre of Guangxi Power Grid Co.Ltd (China Southern Power Grid), China), Lijuan Huang (Power Grid Planning Research Centre of Guangxi Power Grid Co.Ltd (China Southern Power Grid), China), Zhen Pan (Power Grid Planning Research Centre of Guangxi Power Grid Co.Ltd (China Southern Power Grid), China), Hui Qin (Power Grid Planning Research Centre of Guangxi Power Grid Co.Ltd (China Southern Power Grid), China), and Xin Lin (Power Grid Planning Research Centre of Guangxi Power Grid Co.Ltd (China Southern Power Grid), China)</i>	
Application of Reinforcement Learning Algorithm in Personalized Music Teaching	599
<i>Jie Pan (Huaihua Normal College, China) and Nenghua Yang (Huaihua Normal College, China)</i>	
Research on Innovative Application of Electrical and Electronic Technology in Remote Monitoring Fault Diagnosis of Construction Machinery	605
<i>Yandong Lu (Jiayuan Testing Group Chongqing Co., Ltd, China) and Xuefeng Sun (Jiayuan Testing Group Chongqing Co., Ltd, China)</i>	
Submersible Position Prediction and Identification Based on Hybrid Neural Network Algorithm and Monte Carlo Method	610
<i>Lingyi Xie (Southern University of Science and Technology, China), Xinqi Li (Southern University of Science and Technology, China), and Mufan Zhang (Southern University of Science and Technology, China)</i>	
Wordle User Prediction and Analysis Based on SARIMA Algorithm, LSTM Recurrent Neural Network, and XGBoost Model	616
<i>Muhao Shi (Sichuan University, China), Yilong Huang (Sichuan University, China), Lejian Zhang (Sichuan University, China), Zetong Jin (Sichuan University, China), and Yuhan Zhang (Sichuan University, China)</i>	

A Study of Momentum Change in Tennis Matches Based on LightGBM and Support Vector Machine Algorithms	621
<i>Bochun Yuan (Southwest Jiaotong University, China), Yujie Feng (Southwest Jiaotong University, China), and Bohao Xu (Southwest Jiaotong University, China)</i>	
A Study on Momentum Prediction for Tennis Matches Based on Sliding Window Algorithm and LSTM Networks	626
<i>Qihao Xu (Dalian University of Technology, China) and Xurui Wang (Dalian University of Technology, China)</i>	
Research on Photovoltaic Power Generation Project Progress Drone Identification System Based on Computer Convolutional Neural Network	632
<i>Yong Wang (China Energy Jiangxi New Energy Industry Co. Ltd, China), Xiangli Min (China Energy Investment Group Jiangxi Power Co., Ltd, China), Guang Chen (China Energy Jiangxi New Energy Industry Co. Ltd, China), Wenjie Fu (China Energy Jiangxi New Energy Industry Co. Ltd, China), Jiangque Fu (Central Southern China Electric Power Design Institute Co., Ltd. of China Power Engineering Consulting Group, China), Le'an Yi (Central Southern China Electric Power Design Institute Co., Ltd. of China Power Engineering Consulting Group, China), Qiao Jiang (Central Southern China Electric Power Design Institute Co., Ltd. of China Power Engineering Consulting Group, China), and Hongming Li (Central Southern China Electric Power Design Institute Co., Ltd. of China Power Engineering Consulting Group, China)</i>	
Design and Implementation of a Biological Virtual Display System Based on 3DMax and Unity3D	641
<i>Junyao Bai (Southeast University, China), Caojia Xia (Southeast University, China), Zijun Zhou (Southeast University, China), and Yan Zhu (Southeast University, China)</i>	
Enhancing Predictive Analytics with Gradient Boosting Machine: Insights from Tennis Match Prediction	647
<i>Wentao Shi (South China University of Technology, China) and Zhaoye Jiang (Shanghai Jiao Tong University, China)</i>	
Technical and Economic Evaluation of Pure Car Truck Carrier Based on CRITIC-G2-PROMETHEE	652
<i>Qiuli Xie (Dalian University of Technology, China) and Mingxia Zhang (Dalian University of Technology, China)</i>	
Research on Fault Prediction System of Mechanical Automation System Based on Deep Learning..	658
<i>Zhaiyi Wang (Shandong Polytechnic College, China)</i>	
Research on Integration System of Teaching Resources of Ideological and Political Course with Big Data and AI Technology	663
<i>Bo Song (Liaoning Communication University, China)</i>	
Research on Network Anomaly Learning Behavior Recognition Method Based on Reverse Selection Algorithm	668
<i>Jiale Han (University College Dublin, Ireland)</i>	
Study on Course Selection System Based on Artificial Intelligence	674
<i>Qingqing Sun (Wanjiang University of Technology, China) and Cui Huang (Wanjiang University of Technology, China)</i>	

Intelligent Robots and Their Systems Based on STM32 Microcontrollers	679
<i>Kaipeng Zhang (Shandong University of Science and Technology, China), Jingxu Zuo (Shandong University of Science and Technology, China), Xinyu Yang (Shandong University of Science and Technology, China), and Sen Xue (Shandong University of Science and Technology, China)</i>	
Methods for Computer Network Security Management Assisted by Artificial Intelligence Models	682
<i>Fei Xia (Yangzhou Marine Electronic Instrument Research Institute, China) and Zhihao Zhou (Yangzhou Marine Electronic Instrument Research Institute, China)</i>	
Research on Chinese Herbal Medicine Planting Information Service Platform System Based on Cloud Computing Network Technology	686
<i>Dongshan Zhang (Bozhou Vocational and Technical College, China) and Wansong He (Bozhou Vocational and Technical College, China)</i>	
A Study of Influencing Factors and Decision Making for Race Momentum Based on Transformer and Decision Tree Modeling	691
<i>Chengxin Li (China University of Petroleum Beijing at Karamay, China), Yi Geng (China University of Petroleum Beijing at Karamay, China), and Yang Xiao (China University of Petroleum Beijing at Karamay, China)</i>	
Research on Remote Diagnosis System of Garden Plant Pests and Diseases Based on Communication Technology	697
<i>Kun Wang (Weifang Engineering Vocational College, China) and Chunhui Zhang (Longnan Academy of Economic Forest, China)</i>	
A Study on the Design of a Depression Diagnostic Framework Based on DepGPT and Neural Networks	702
<i>Lei Huang (Heilongjiang University of Science and Technology, China)</i>	
A Study of UAV Targeting Based on System of Differential Equations and Newton Iterative Methods	707
<i>Zitong Peng (Sichuan Normal University, China), Jiehao Zhang (Sichuan Normal University, China), and Wanting Xia (Sichuan Normal University, China)</i>	
Research on Dynamics Modeling and Obstacle Avoidance Optimization of Hyper-Redundant Robotic Arm Based on Deep Learning	713
<i>Houchi Li (Shandong University, China), Gang Xue (Shandong University, China), and Yanjun Liu (Shandong University, China)</i>	
Nuclear Emergency Intelligence Sharing and Information Integration Platform Based on Deep Learning and Big Data Analysis	719
<i>Tianyu Niu (Shandong Nuclear Power Company, China) and Lili Yan (Shandong Nuclear Power Company, China)</i>	
Research on Freight Volume Forecasting and Personnel Scheduling at Logistics Transfer Stations Based on the ARIMA Algorithm	724
<i>Tianqi Hong (Nanjing Audit University, China)</i>	
Dynamic Collision Response Analysis of Battery Packs for New Energy Vehicles Based on Simulated Collision Tests	730
<i>Yongqiang Wu (China Automotive Technology and Research Center Co., Ltd., China), Manli Liu (China Automotive Technology and Research Center Co., Ltd., China), and Deyou Yan (China Automotive Technology and Research Center Co., Ltd., China)</i>	

Research on Key Technology of Interactive Animation Design Combined with Artificial Intelligence Technology	734
<i>Yingwei Gao (Changchun University of Architecture and Civil Engineering, China)</i>	
Application of Virtual Reality and Artificial Intelligence Technology in Landscape Planning	739
<i>Min Li (Guangdong University of Science and Technology, China)</i>	
Precise Localization with Depth Camera in Industrial Intelligent Logistics	744
<i>Wuhao Xu (Soochow University, China), Dandan Hang (Soochow University, China), Yicheng Huang (Soochow University, China), Yawen Zhang (Soochow University, China), Yu Shi (Soochow University, China), and Yuanyuan Zhang (Soochow University, China)</i>	
PTZSort: Using Reinforcement Learning to Drive PTZ Camera for Vehicle Detection	751
<i>Runze Zhang (City University of Macau, China)</i>	
Embedded Feature Selection Method Based on Neural Networks—Research on Simulation Application of European Football Data	758
<i>Xinying Shu (Minzu University of China, China)</i>	
A Pentacene-Based Organic Transistor for Emulating Excitatory–inhibitory Responses of the Synaptic Behaviors	764
<i>Ting Zhang (University of Electronic Science and Technology of China, China), Han Zhou (The 29th Research Institute of CETC, China), Jian Li (University of Electronic Science and Technology of China, China), and Shibin Li (University of Electronic Science and Technology of China, China)</i>	
Research on the Measurement of Shipborne Infrared Radiation Characteristics Based on Low-Temperature Blackbody	768
<i>Lijian Zhao (China Satellite Maritime Tracing and Controlling Department, China), Xiaodong Sun (China Satellite Maritime Tracing and Controlling Department, China), Ruxiang Xu (China Satellite Maritime Tracing and Controlling Department, China), Ke Li (China Satellite Maritime Tracing and Controlling Department, China), and Haiyuan Zhou (China Satellite Maritime Tracing and Controlling Department, China)</i>	
Research on Application System of Computer Artificial Intelligence Technology in Content Recommendation of Cultural Tourism Industry in Jilin Province	772
<i>Lihua Ding (Jilin Animation Institute, China)</i>	
Research and Simulation of Malicious Spreading Behavior in Online Social Networks	777
<i>Jiajie Liang (People's Public Security University of China, China), Jia Li (People's Public Security University of China, China), Fanliang Bu (People's Public Security University of China, China), and Anhao Wu (People's Public Security University of China, China)</i>	
Design and Implementation of Intranet Abnormal Traffic Security Detection System	782
<i>Aoran Zhao (Tianjin Polytechnic University, China)</i>	
HOG-PCA-Block-Voting: Lighter and Smaller but Faster	786
<i>Hao An (Jiangsu University, China), Yinghu Shao (Jiangsu University, China), Jiaran Gu (Jiangsu University, China), Lihao Liu (Shandong University of Science and Technology, China), Haorao Zhang (Jiangsu University, China), Yingwei Gao (Jiangsu University, China), and Lingxiao Yu (Qingdao University of Technology, China)</i>	

Design and Research of Smart Tourism Recommendation System Based on Big Data Mining Technology	794
<i>Longlong Liu (Weifang Engineering Vocational College, China)</i>	
Research on Collaborative System of Anti-Island Safety Protection Equipment for Large-Scale Distributed Photovoltaic Connected to Distribution Network	798
<i>Jianhua Xiao (Jieyang Power Supply Bureau, Guangdong Power Grid Co. Ltd., China), Shuyin Duan (Electric Power Research Institute Co., Ltd., CSG, China), Xiaobo Lin (Jieyang Power Supply Bureau, Guangdong Power Grid Co. Ltd., China), Lei Yu (Electric Power Research Institute Co., Ltd., CSG, China), Hongjie Huang (Jieyang Power Supply Bureau, Guangdong Power Grid Co. Ltd., China), Xinhao Lin (Electric Power Research Institute Co., Ltd., CSG, China), Fei Li (Jieyang Power Supply Bureau, Guangdong Power Grid Co. Ltd., China), and Shuigen Zhu (Jieyang Power Supply Bureau, Guangdong Power Grid Co. Ltd., China)</i>	
Research on Corpus Analysis Based on Big Data	803
<i>Yan Zhu (China University of Geosciences, China)</i>	
Software Design of Intelligent Stereoscopic Warehouse Control System Based on S7-1500PLC	807
<i>Yuting Huang (Changchun Automobile Industry University, China) and Mao Ding (Audi FAW NEV Co., Ltd., China)</i>	
A Double Layer Blockchain Financial Data Encryption System Based on Deep Learning and Cloud Computing	811
<i>Liang Li (Hebei University of Economics and Business, China), Liruo Jia (Nanjing Agricultural University, China), Jiajun Xu (University of Shanghai for Science and Technology, China), Qi Tan (Shanxi University, China), and Guannan Han (University of Leeds, UK)</i>	
Design of a Computer-Based Personalized Recommendation Service System for e-Commerce	816
<i>Guangming Ji (Chengdu College of University of Electronic Science and Technology of China, China)</i>	
Design of Cross-Border e-Commerce Supply Chain Network Driven by Machine Learning	821
<i>Guangming Ji (Chengdu College of University of Electronic Science and Technology of China, China)</i>	
Combined Representation Learning for Uncertain Knowledge Graphs	826
<i>Rui Qiao (Wuhan University of Science and Technology, China), Xiaolei Zhong (Huazhong University of Science and Technology, China), and Yang Fu (Wuhan University of Science and Technology, China)</i>	
Energy Consumption Forecasting in Buildings Based on Long-Term and Short-Term Memory Networks	831
<i>Shenlong Zou (North China Electric Power University, China), Xianjin Luo (North China Electric Power University, China), and Zengxian Yang (North China Electric Power University, China)</i>	
The Application of Ising Model in Simulating Neural Networks	836
<i>Zhiyuan Gao (Lanzhou University of Technology, China) and Xuefeng Wang (Lanzhou University of Technology, China)</i>	

Research on Multi-Beam Swath Surveying Based on Geometric Mathematical Models and Objective Optimization Algorithms	847
<i>Zhilin Li (Taiyuan University of Technology, China), Desong Liu (Taiyuan University of Technology, China), Yang Liu (Taiyuan University of Technology, China), and Yilin Wang (Taiyuan University of Technology, China)</i>	
Tennis Ball Momentum Study Based on CUMSUM Detection Algorithm and Machine Learning Models	852
<i>Tiannan Fu (Lanzhou University, China)</i>	
Enhancing Sentiment Analysis Through Text Classification Using Data Mining Approach	857
<i>Jinhai Zhang (Dongying Vocational Institute, China)</i>	
Competition Score Assessment and Prediction Model Based on Factor Analysis and Gradient Boosting Tree Algorithm	866
<i>Zibo Wei (Beihang University, China), Zhenhong Huang (Beihang University, China), and Haotian Xu (Beihang University, China)</i>	
Exploration and Prediction of Lake Water Levels Based on the MOACO Algorithm and CNN-LSTM Model	871
<i>Yihao Wu (University of Science and Technology, China), Ruohan Zhang (University of Science and Technology, China), Chengtian Yang (University of Science and Technology, China), Mengyu Tang (University of Science and Technology, China), and Hao Liu (University of Science and Technology, China)</i>	
Application of Probabilistic Methods in Automated Tool Fault Detection	876
<i>Yuanshuo Kong (China University of Petroleum (East China), China)</i>	
A Study of Cargo Volume Prediction and Personnel Scheduling Based on Random Forest and Greedy Algorithm	884
<i>Jiazhe Zhang (Northeastern University, China), Hao Zhao (Northeastern University, China), and Bingyu Xie (Northeastern University, China)</i>	
A Research on Pressure Pulsation of a Marine Shaftless Centrifugal Pump	889
<i>Wei Yan (Dalian University of Technology, China), Dapeng Yu (Dalian University of Technology, China), and Haijiao Sun (Dalian University of Technology, China)</i>	
Study on Computer Numerical Control Technology in Siemens PMC Platform Equipment	897
<i>Minggang Li (CGN Digital Technology Co., Ltd, CGNPC, China), Xiaolei Zhao (CGN Digital Technology Co., Ltd, CGNPC, China), Qingming Wang (CGN Digital Technology Co., Ltd, CGNPC, China), Guosheng Zhang (CGN Digital Technology Co., Ltd, CGNPC, China), and Xincai Chang (CGN Digital Technology Co., Ltd, CGNPC, China)</i>	
Research on Performance Optimization and Fault Diagnosis System of Fuel Handling Equipment Under Mechatronics	902
<i>Minggang Li (CGN Digital Technology Co., Ltd., China), Xianjun Song (CGN Digital Technology Co., Ltd., China), Xiaolei Zhao (CGN Digital Technology Co., Ltd., China), Qingming Wang (CGN Digital Technology Co., Ltd., China), and Xincai Chang (CGN Digital Technology Co., Ltd., China)</i>	

Research on the Application of SDN Technology in Power System Security for Threat Sensing and Early Warning	907
<i>Gang Zhao (State Grid Xinjiang Electric Power Co., Ltd. Information and Communication Company, China), Song Han (State Nuclear Power Planning and Design Institute Co., Ltd., China), Liangliang Li (State Nuclear Power Planning and Design Institute Co., Ltd., China), Tianran Lu (State Nuclear Power Planning and Design Institute Co., Ltd., China), Chenxi Bu (State Nuclear Power Planning and Design Institute Co., Ltd., China), and Yanrui Ma (State Nuclear Power Planning and Design Institute Co., Ltd., China)</i>	
Research on Design Method of ECG Filter Based on Multisim 14	914
<i>Yinping Chen (Wuhan Donghu University, China)</i>	
Application of Physical Model of Secondary System in Fault Prediction of Wind Farm	917
<i>Bosong Ding (Huaneng Power International Co., Ltd. Anhui Wind Power Branch, China), Haiwang Liu (Huaneng Power International Co., Ltd. Anhui Wind Power Branch, China), Chao Xiong (Huaneng Power International Co., Ltd. Anhui Wind Power Branch, China), Yawen Hong (Huaneng Power International Co., Ltd. Anhui Wind Power Branch, China), and Xuanyu Guan (Huaneng Power International Co., Ltd. Anhui Wind Power Branch, China)</i>	
Application of Multidimensional Dynamic Information Model in Intelligent Parking Construction of Underground Garage	922
<i>Kaixu Wang (Xinjiang University, China), Alipujiang Jierula (Xinjiang University, China), Jiaming Qi (Xinjiang University, China), and Lianxiang Zhang (Xinjiang University, China)</i>	
Application of Key Measurement and Control Technologies for Distributed Photovoltaic Grid Connected Systems	926
<i>Shian Zhan (State Grid Fujian Electric Power Co., Ltd., China), Shengteng Yan (State Grid Fujian Electric Power Co., Ltd., China), Zhongan Ding (State Grid Fujian Electric Power Co., Ltd., China), and Dahai Zhuang (State Grid Info-Telecom Great Power Science and Technology Co., Ltd, China)</i>	
Research on Data Governance Visualization and Intelligent Search Technology Based on Resource Mapping	932
<i>Han Lin (State Grid Info-Telecom Great Power Science and Technology Co., Ltd., China), Ting Chen (State Grid Info-Telecom Great Power Science and Technology Co., Ltd., China), Huaqiang Ke (State Grid Info-Telecom Great Power Science and Technology Co., Ltd., China), An Yan (State Grid Info-Telecom Great Power Science and Technology Co., Ltd., China), and Chaodeng Lin (State Grid Info-Telecom Great Power Science and Technology Co., Ltd., China)</i>	
Analysis and Inspiration of Key Elements of Zero Trust Network Architecture	938
<i>Shouyi Wang (China Satellite Marine Tracking and Controlling Department, China), Bin Zhang (China Satellite Marine Tracking and Controlling Department, China), Bin Shi (China Satellite Marine Tracking and Controlling Department, China), and Yumeng Shen (China Satellite Marine Tracking and Controlling Department, China)</i>	

Research on Real-Time Application of Artificial Intelligence Algorithm in Armoured Vehicle Combat Platform	942
<i>Hui Chai (China North Vehicle Research Institute, China), Meihui Bian (China North Vehicle Research Institute, China), Chunsheng Liu (China North Vehicle Research Institute, China), Jun Li (China North Vehicle Research Institute, China), and Wenjun Guo (China North Vehicle Research Institute, China)</i>	
Research on Situational Awareness of Network Security Based on Machine Learning	947
<i>Hui Duan (Hubei University, China)</i>	
Analysis of the Contribution of Relay Protection Systems to the Reliability of Electrical Primary Equipment Based on Comprehensive Consideration	952
<i>Zikai Jin (State Grid Liaoning Electric Power Co., Ltd., China), Yan Liu (State Grid Liaoning Electric Power Co., Ltd., China), Hua Li (State Grid Liaoning Electric Power Co., Ltd., China), and Qiang Ma (State Grid Liaoning Electric Power Co., Ltd., China)</i>	
Dual Consistency Learning for Semi-Supervised Airway Segmentation	961
<i>Mingshuang Li (Southern University of Science and Technology, China), Yunyi Yuan (Chinese Academy of Sciences, China; University of Chinese Academy of Sciences, China), Qiong Wang (Guangdong Provincial Key Laboratory of Computer Vision and Virtual Reality Technology, China), Yinling Qian (Guangdong Provincial Key Laboratory of Computer Vision and Virtual Reality Technology, China), and Lei Zhu (The Hong Kong University of Science and Technology (Guangzhou), China)</i>	

Author Index