2026 IEEE International Conference on Power, Electronics and Green Energy (ICPEGE 2026)

Shenyang, China
28-30 January 2026

Pages 1-605

IEEE

IEEE Catalog Number: CFP261AX-POD
ISBN: 979-8-3315-8602-7

Copyright © 2026 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: CFP261AX-POD
ISBN (Print-On-Demand): 979-8-3315-8602-7
ISBN (Online): 979-8-3315-8601-0

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com



TABLE OF CONTENTS

Study on the Dynamic Detection of Particle Characteristics in Transformer Oil Based on Ultrasonic Attenuation 1
Wu, Donghui; Wu, Sheng; Zhang, Xiaoyu

TEGCA-DTI: Drug-Target Interaction Prediction Model Based on Transformer-ECA and GaAN and Multi-head Cross-Attention 7
Wang, Yonggui; Li, Zhuozhuo

Research on Precise Electricity-Carbon Measurement and Uncertainty Quantification Based on Spatiotemporal Differences 13
Lin, Fei; Liang, Siyuan; Zhang, Wenqi

Data Mining Accelerates Layered Transition Metal Oxide Cathode Doping Design Optimization 19
Fan, Yuelu

Evolution of the Model: Optimizing League of Legends Win Rate Prediction Neural Networks through Symmetry Feature Selection 25
Lu, Fuxing

Optimization of Voltage Windows for Aqueous Zn– MnO<inf>2</inf> Batteries to Suppress Mn²⁺ Dissolution 31
Wang, Rongsheng

Noise Hierarchies in Fine-Grained Image Recognition: Pixel Bias, Label Corruption, and Purification Strategies 37
Zhu, Yazi

A Research on Medical Big Data Security Technology Based on Fog Computing 42
Qin, Baoling

Design and Implementation of a Game Data Management System Based on SpringBoot and Vue 49
Xiang, Bohao; Xie, Nan; Chen, Lewen; Yang, Zhi; Chen, Weimin

A Health Status Assessment Method for Ultra High Voltage GIS Based on Data and Guidelines 54
Xin, Zhao; Ning, Yang; Fei, Gao; Shuai, Han; Meng, Guo; Haoyu, Liu

Causes of Ice-Shedding Galloping on Overhead Transmission Lines and Prevention Technologies 59
Qu, Yang; Liu, Qiang; Chi, Yukun; Li, Juning; Yang, Yong; Ji, Hongwei; Song, Jun; Chen, Jie

Design and Implementation of a Dual-Chamber Material Outgassing Rate Testing System 63
Wang, Xinghui; Cheng, Yongjun; Pu, Changcheng; Dong, Meng; Chen, Lian; Feng, Tianyou

Modeling and Performance Analysis of Hospital Resource Management System Based on Hybrid Networking Architecture 68
Dong, Xiaoning; Li, Mingxue; Zhang, Jiewei; Tang, Jinbiao

Design of an Intelligent Aquaculture System Based on STM32 73
Xu, Yongsheng; Qin, Guozhong; Wang, Wei

Research on Intelligent Building Scheduling Strategies Considering Demand-Side Response 78
Zhang, Xuying; Li, Yumei; Yang, Jingxian; Wu, Tao; Wei, Xiaojuan; Ma, Anren

Optimal Scheduling Strategy of Wind-Thermal-Storage Multi-Energy Complementary System Based on Deep Reinforcement Learning 83
Wang, Binji; Huang, Jingtao; Yan, Jing; Hong, Yufan; Wang, Kai; Yang, Jingxian

The e-derivatives and cryptographic security properties of Boolean functions in cryptographic systems 88
Huang, Jinglian; Yuan, Xiujuan

Water-Light Storage Integrated Scheduling Based on SAA-PSO Algorithm 93
Wen, Run; Cao, Xinyuan; Xue, Wentao

The research on the application of computer vision based on depth camera in robotic arm control 97
Xiong, Shaojun; Qi, Xiangtao

Research on the Primary and Secondary Collaborative Planning Method for Distribution Stations..... 102
Qiang, Zeng; Hengfu, Fang; Jianjian, Jiang; Yuanhong, Liu

Layout Optimization of Shipyard Block Assembly Site Based on SA-HC Hybrid Algorithm..... 109
Wu, Maopu

5G-A RedCap: Technology and Applications.....114
Zhang, Hua

Research on intelligent prevention and control of "black hole effect" at the entrance of highway tunnels 119
Duan, Mengmeng; Jin, Huiqing; Gu, Junwen; Li, Yu; Liu, Susu

Research on the quality and efficiency evaluation model of power full business scheduling based on multi-dimensional feature fusion..... 124
Wen, Zhang; Yan, Chen; Hongbo, Guo; Jiangbo, Yin; Xuejiao, Wang; Liang, Chen; Chun, Zhou; Yajing, Zhu; Jing, Zhao

Research on Small Target Recognition Algorithm for Low-altitude UAV Based on UDT-YOLOv5..... 129
Dai, Dongxu; Zhang, Yuhang; Jiang, Chao; Chen, Kebin; Jiang, Xuping

Research on Intelligent Connected Vehicle Safety Technology Based on Fuzzy Testing..... 135
Zhan, Xiuchen; Liu, Mengfei; Zang, Xiaodong

Research on Low Frequency Load Reduction of Distributed Photovoltaic Proportion Integrated Grid..... 140
Zhang, Guanyu; Liu, Mingyang; Li, Chenghao; Li, Qionglin; Pan, Xueqing; Zhang, Di; Gao, Ze; Yao, Wei; Wei, Shanyang

Hippopotamus Optimization Algorithm for PID Controller Optimization of Underwater Autonomous Vehicle 145
Guo, Xin; Han, Xichen; Li, Hongna; Liang, Lunchang; Xie, Jiaqi; Zhou, Yunfu

Multimodal Pipe Defect Diagnosis with Transformer-Based Cross-Modal Learning..... 152
Zhong, Ping; Li, Gang; Kong, Weijiao; Yu, Yue

Application of Transformer Algorithm in Prediction Model 158
Zhao, Xueyan; Wang, Jiali; Geng, Hua

Research on the Application of Reinforcement Learning in Intelligent Translation and Spoken Language Training Systems 164
Hai, Yue

An Image-Text Cross-Modal Retrieval Method Based on Multimodal Feature Fusion and Contrastive Quantization 170
Li, Xusheng

Construction and Application of a Traditional Chinese Medicine Component Database Based on Deep Learning 178
Yang, Shimeng; Jiang, Nan; Zhang, Qiao

Research on Optimizing the Model of Graph-Image Integration in Information Visualization Using Deep Learning 184
Yan, Xi

Passenger Flow Prediction of Shared Bicycles Based on Convolutional Long Short-Term Memory Network 190
Xin, Tianyi

Big Data Analysis of Student Mental Health Based on Artificial Intelligence and Feature Extraction 195
Ji, Lingling; Li, Tianran; Wu, Xiaomeng

Damage Identification in Building Structures Based on a 1D CNN–PSO–SVM Algorithm 201
Luyu, Zhang

Application of an Attention-Enhanced PID-LSTM Hybrid Control Algorithm for Industrial Robotic Arm Trajectory Tracking 208
Wang, Zhe

Research on Lightweight Transformer for Hybrid Force-Position Control of Flexible Manipulators 214
Wang, Yinli

Three-Dimensional Object Localization Method Based on Improved YOLOv8 and Monocular Vision 220
Xie, Yufeng; Liang, Zhuohan

Intelligent Small-Sized Object Detection Model Based on Improved YOLOv8 226
Zhao, Yiwei; Ji, Yingyi; Xu, Yang; Zhang, Yunxiao

Anti-Collision Algorithm for RFID Tags Based on Deep Learning 231
Yang, Ye; Zhang, Haowei; Lu, Ziyuan; Zhu, Dongbi

Research on User Behavior Prediction Based on XGBoost Model Enhanced by Energy Valley Optimizer 237
Lin, Yaqi

Research on Object Detection Chatbot Based on YOLOX 245
Chen, Zixing; Wu, Yicheng; Lin, Xiaohan; Xu, Xiaoyan

Research on Model Optimization of Intelligent Recommendation System in Precision Marketing of Festival Goods 252
Wang, Ruijun

Real-Time Early Warning Model of Psychological Abnormality of Plateau Emergency Personnel Based on Multimodal Physiological Signals 260
Cheng, Naijun; Zhang, Yang; Ci, Yang; Xie, Dingxing; Wu, Bin

RCED: Relational Graph Convolutional Network with Commonsense Knowledge for Emotion Recognition and Depression Early Warning in Dialogues 265
Yin, Isabella

The Obstacle Avoidance Path Planning of Six Degrees of Freedom 271
Liu, Jiapeng; Lv, Zihang; Kong, Degang

Machine Learning-Based Optimization Algorithm for Distributed Geometric Parameters of Heat Exchangers 278
Xiong, Xinyu; Yang, Zekun; Zhang, Nan; Li, Guanghui

A Dynamic Compensated Gradient-Based Recurrent Neural Network Model for Dynamic Tensor Inversion in Time-Varying Systems 284
Yang, Dongbo; Ling, Xiao

Behavioral Data Modeling of Language Games via Time Series Forecasting and Clustering Techniques 291
Zhang, Xiaochun; An, Xu; Xue, Ruixin

Opinion Modeling of Social Media Comments Based on LSTM Sentiment Analysis 297
Li, Renwei

A Data-Driven Energy Efficiency Improvement and Cost Optimisation Model for New Energy Electric Vehicles 304
Tian, Yueqi

Research on the Construction of a Global Cybercrime Distribution Model Based on the Improved Lotka-Volterra Equation 309
Yin, Bohang; Song, Ruixin

Research on the Effects of the Intelligent Marking Algorithm Based on the Analytic Hierarchy Process 316
Ma, Yupei

Research on High-Fidelity Industrial Defect Sample Generation Method Based on Crop-Integrate Generative Adversarial Network 321
Chen, Kailei; Dou, Yuntao; Zhang, Yushu

Application of Sentiment Analysis Model in ESG Public Opinion Monitoring Based on Deep Learning 331
He, Shiyu

Image Recognition of Textile Healing Effect Based on Transformer-LSTM 336
Rao, Zhirui; Lei, Boze

An Improved RRT* Algorithm for Robotic Arms via Multi-strategy Fusion 340
Guo, Yuming

Research on Complex Multi Objective Systems Based on Intelligent Feedback Optimization Framework and Improved Genetic Algorithm 347
Cheng, Binglin; Wang, Wenchao; Lu, Chaopan

Research on innovative architecture high performance computing device technology supporting application of artificial intelligence large models 355
Shi, Chao; Wang, Shaofei; Song, Meng; Yang, Yunfei; Liu, Wenpan; Gu, Wei

Research on Software Reliability Prediction Methods for Intelligent Measurement Equipment 362
Zhang, Bensong; Du, Jinyang; Rong, Xin; Zhang, Leping; Ye, Hanfang

The application of MOSFET based on TENG in the field of cochlear implants 366
Li, Yuzhe; Yang, Qi; Wang, Ziyou; Chai, Jiahao

Transforming Manufacturing Execution Systems with Large Language Models and Multi-Modal Processing 371
Cheng, Yi-Ling; Hou, Kung-Hsu; Chao, Chung-Hsing

Research on Short-distance Route Planning for Vehicle Loading Based on Hybrid Prediction 375
Hu, Yueyang; Linghu, Yehang; Zhou, Ting; Chen, Jingjing; Nie, Shiyun

MAR-MHNet: A Shipborne Crew State Monitoring Framework Integrating Cross-Modal Reliability- Aware Attention and Adaptive Threshold 381
Zhao, Pingzhi; Di, Boning; Wang, Chaowei

Computational Framework for Complex Time-Series Trend Prediction: Multi-Model Fusion with Random Forest and Monte Carlo Simulation 388
Xia, Haoting; Zhang, Jingxin; Mou, Junze

Optimized Computational Framework for Multivariate System Analysis: Integrating Simulated Annealing with Gray Correlation 396
Jiao, Zhiyuan

Computational Framework for Motion Optimization in Helical Structures: Integrating Runge-Kutta Methods with Simulated Annealing Algorithms 402
Hao, Xiaohong; Cheng, Zhilong

Robust Object Detection for Autonomous Driving via Curriculum-Guided Group Relative Policy Optimization 407
Jia, Xu

Research on Metro Transportation Flow Prediction Based on the STL-GRU Combined Model 414
Wang, Fengming; Zhou, Zijie; Zhu, Anni; Ma, Huichen

Analysis of the Application of Tree-Structure-Based Matching Algorithm in Social Work Development Information 420
Liang, Fan; Xie, Wenjie; Su, Runda; Luo, Yuxuan

A Large-Scale Model Driven Framework for Automated Generation of Educational Video Courses: Application in the Tobacco Industry 425
Deji, Wang; Cuilan, Wang

A Hybrid AI Framework for Dynamic Talent Trajectory Modeling and Proactive Outcome Optimization 431
Jia, Jian; Wang, Ping; Zuo, Jun; Shang, Yunxia; Guan, Jihai

Design and Implementation of a Lightweight Facial Recognition Model for Android Systems 437
Yanfang, Liu; Mingao, Wan; Yu, Zhang; Nannan, Su; Xiaoqing, Wang; Liangping, Wei

A Novel Coordinated Optimisation Control Method for Power System Generation, Transmission, Load and Storage Based on Multimodal Large Models 441
Xiaoxiao, Zhu; Hua, Li; Yaoting, Xu; Jie, Dong; Yaohua, Jin

Research on Remote Online Monitoring and Intelligent Diagnosis System for Petroleum and Petrochemical Equipment 447
Wang, Junxian; Liu, Zhenhua; Yan, Bintao; Yang, Shuangye; Biao, Guo; Kai, Zhao; Qian, Li; Qing, Liu; Nie, Jiejing

Research on the Working Condition Recognition Technology of Rod Pumping System Based on Deep Learning 453
Liu, Zhenhua; Wang, Junxian; Feng, Yuxuan; Yang, Shuangye; Biao, Guo; Yan, Bintao; Qian, Li; Kai, Zhao; Liu, Xiaoyi

Research on audio signal preprocessing based on neural network 459
Yingtong, Li

Acupoint recommendation and knowledge graph analysis based on improved convolutional network 464
Cheng, Wenxi; Wang, Jiarui; Zhang, Chengpeng

Construction and Performance Algorithm Optimization of Financial Dynamic Pricing Model Based on Reinforcement Learning 469
Wu, Zhenyu

Study on Solving Dynamic Vehicle Routing Problem Based on Deep Learning for Cost Control 477
Yu, Jingbo

Research on a Multi-Objective Lightweight Design Method for 2D Cantilever Beams Based on Genetic Algorithm 483
Yin, Yijin

Cross-border Short Video Platform System for Dynamic Adaptation to Legal Conflicts, Regional Regulatory Analysis, and Intelligent Content Filtering Based on Natural Language Processing and Intelligent Algorithms 489
Shu, Wenzhou; Liu, Ao; Cui, Minzhe; Yang, Haoyuan; Zhang, Yushuo; Li, Yongjun; Xiang, Bowei; Sun, Chengying; Deng, Yaling

Multimodal Data-Driven Machine Learning for High-End Equipment Remaining-Useful-Life Prediction: An Industrial Engineering Practice 494
Xu, Baicun

Domain-Adaptive Sparse Graph Attention Network for Neural Resource Recommendation in Business Language Learning 499
Deng, Zhengyan

Design of Dynamic Data Visualization Algorithms Based on Deep Learning and Improvement of Human-Computer Interaction Experience 506
Cao, Meng

Sentiment Computing and Generative Adversarial False Information Detection of Chinese Online Public Opinion 511
Pan, Xianwei

Application Model of Natural Language Processing in Intelligent English Writing Assistance 517
Li, Liying; Wang, Xin; Gao, Fei

Algorithm Research on an Agricultural Environmental Intelligent Decision Support System 523
Jiang, Heyuan

Research on the Application of Reinforcement Learning in Intelligent English Writing Correction 529
Yuan, Hongmiao

Research on the Implementation of Chinese Painting Artistic Concepts in Computer-Assisted Film and Television Animation Creation 535
Zhu, Hua; Zhang, Chi

Day-Ahead Forecasting of Residential Load via the TimesNet Model 541
Jiang, Haoyu

Path Planning of Campus Cleaning Robot Based on Mathematical Modeling and AI Algorithm 547
Liu, Zhengran

Agent-Based Dynamic Vehicle Routing in Urban Logistics under Real-time Traffic Conditions..... 555
Yang, Zhehao

Design of 60 Steel Rail Surface Damage Recognition and Detection System Based on Deep Learning 564
Wang, Yu; Mo, Hetian; Ying, Mengting; Liu, Jing; Chen, Haoxing; Chen, Zihao; Liang, Jiongfeng; Hu, Jinyuan; Peng, Bingren

Intelligent Detection of Nanoscale Defects on Component Surfaces via Industrial Vision..... 570
Shang, Huiqin

Intelligent Detection System for Medical Data Analysis: A Machine Learning Framework for Personalized Timing Optimization and Risk Assessment..... 577
Wang, Haoran; Long, Wenbang

Research on Classification of Motor Imagery EEG Signals Based on LSTM and SVM 582
Xu, Jiarui; Wang, Yang; Peng, Junqiang

Research on the Application Model Construction System for Machine Vision in Rail Transit Safety Monitoring..... 586
Cui, Feng; Wang, Yangbin

Research and Implementation of Automated Testing for Vehicle Remote Diagnosis..... 592
Kaiquan, Liu; Manna, Wang

Research on User Experience Optimization and Security Risk Control of OTA Updates for Automobiles 599
Nirunze, Yang; Yuzhe, Wang

Attention Mechanisms-Based Convolutional Neural Networks for Facial Emotion Recognition in Human-Computer Interaction..... 606
Han, Yunbing

Path Optimization of Classified Transportation Based on Particle Swarm.....611
Tan, Quanyan; Wang, Ruizhen; Lai, Guanxin; Zhuang, Yijun; Chen, Nengtao

Aviation Safety Risk Prediction Model Based on Machine Learning and Data Mining 615
Chen, Jiaxun; Deng, Jianqiao

Research on Modeling and Prediction Algorithm for Multivariate Time Series Data Based on Fusion of Spatial Statistics and Machine Learning 621
Xu, Xinwu

A Pension Fund Flow Tracking System Integrating Machine Learning and Blockchain Technology..... 628
Pang, Yin

Machine Learning-Based Intelligent Diagnostic Model for CXR Images..... 634
Ding, Yongjie

Data-Driven Multi-Agent Coordination Framework for Air-Defense Occlusion Maximization Using PSO and Cone-Based Visibility Assessment 639
Ma, Xiaojin; Wang, Yuqi; Huang, Xingzhe; Li, Wanting

Adaptive T-Spline IGA Algorithm Based on Residual Driver: Optimization of Computational Efficiency and Local Refinement Strategy 647
Wang, Siqi; Zheng, Hanlin

NIPT Temporal Computation Framework Based on Random Forest and Penalty Optimization: Algorithm Design and Efficiency Analysis 653
Zhang, Xicheng

Research on Electric Vehicle Charging Compatibility Fault Diagnosis Method Based on Knowledge Graph 659
Mingguang, Zhang; Chuan, Li; Yang, Li; Zhaohui, Wang; Shanming, Liu; Baoqiang, Zhang

Multi-Source Sensor Fusion for Robust Localization and Perception in Contactless Delivery Vehicles: A Hybrid Approach Combining Extended Kalman Filtering and Transformer Networks 666
Zuo, Wenji

A Dynamic Temperature-Aware Metaheuristic Approach for Real-Time Path Optimization in Agricultural Cold Chain Networks 671
Zhu, Yuan; Lin, Xi

Research on an Intelligent File Query System Model Integrating Natural Language Understanding and Information Retrieval 676
Nan, Yang; Wang, Cheng; Li, Peng; Zhu, Yingchao; Wu, Guorui; Yang, Ming; Gao, Haitao; Hu, Yuwen; He, Zixuan

Research on Sensor Motion State Recognition Model Based on Functional Kernel Logistic Ensemble Regression 682
Liu, Jun

A Computational Framework for Long-Tailed Traffic Sign Detection: YOLOv8n Enhanced by Color-Constrained Data Augmentation 687
Wu, Jiayi

Design of Error Control for Data Transmission in Spaceborne Load Control System Reconfiguration 694
Wei, Zhiming; Ma, Dongtao; An, Jintao; Tuo, Anping; Lan, Andi

Research on a Rural Credit Risk Assessment Model Based on Machine Learning and Blockchain 700
Liang, Zixi

Research on Model Optimization Using Deep Learning in Intelligent Employment Guidance Systems 706
Zhou, Wei; Cheng, Yalan

A Demand Response Collaborative Control Algorithm for Smart Campus Buildings Based on Distributed Optimization Computing 711
Ma, Jiankai; Chen, Xiaoyi; Shao, Jiajia; Yan, Xiaoyu; Wu, Lijun

Research on a Transformer and Federated Learning-Based Energy Consumption Prediction Algorithm for Office Buildings Using Multi-Source Heterogeneous Data 717
Ma, Jiankai; Chen, Xiaoyi; Tian, Yifan; Dai, Yuanyuan; Wang, Qi

PCB Defect Detection Method Based on Improved YOLOv11 723
Deng, Lianmeng; You, Congzhe

Computational Framework for Risk-Aware NIPT Timing: Polynomial–Logistic Modeling with Dual BMI Stratification and Monte Carlo Robustness 729
Zhang, Cong; Wang, Weijie; Huang, Yiyang

Emotional Intelligence in Language Education: A Multimodal Analysis Framework Based on CLIP and Dynamic Weighting 735
Bingqian, Qiu; Lu, Wen; Yushuo, Zhang; Xuyang, Wang

MSHCNet: A Multi-Scale Hierarchical Complementary Network for EEG-Based Motor Imagery Classification 743
Yang, Jun; Zhang, Jiahao; Shen, Tao; Chen, Fanan

Research on Urban Traffic Flow Prediction Algorithm Based on Neural Network 748
Wang, Zhaoning; Zhang, Zhenyin

Research on Traffic Sign Recognition Algorithm Based on Deep Learning 754
He, Zhicheng

Research on Helicopter Flight Trajectory Tracking Control Based on Deep Learning Algorithms 760
Liu, Chenliang; Lei, Zhang; Yan, Zhiyong

Cognitive Load Assessment Model Based on Deep Learning Network 766
Fang, Jiayang; Zhang, Jiaxu; Shi, Songhao; Duo, Jiahui

Intelligent Monitoring and Analysis Algorithm for C17ORF49 Gene Expression in ERα-Positive Breast Cancer 771
Wang, Liya

Intelligent Sensing and Data Processing Model in a Slurry Solidification Mechanical Filter Press System 777
Xiang, Wei

Multi-objective Optimization Framework for Controllable Circadian Rhythm LED Light Sources: A Comprehensive Spectral Design and Performance Evaluation System 782
Zhang, Rongkai; Zhao, Lili

MODPN: Dual-Network Graph Attention for Multi-Omics Disease Diagnosis 787
Huang, Qianan

Robust Spectral Signal Processing-Based Framework for Infrared Interferometry-Driven SiC Epitaxial Thickness Estimation 793
Zhang, Yibo

Environmental Sustainable Development Simulation Using PLEIADES Software and Algorithm Optimization 798
Yan, Tang

A Game-Theoretic Reinforcement Learning Framework for Disruption-Aware Resource Allocation and Inventory Control in Cyber-Physical Systems 804
Wang, Jiarui

A Big Data–Driven Hybrid Algorithmic Framework for Intelligent Evaluation and ARMA(2,1)-Based Forecasting in New Energy Vehicle Systems 810
Guo, Shengkai; Wang, Yikerong; Wang, Zhicheng; Zhang, Siyuan; Luo, Mingyang

Hybrid K-means Clustering and DID Model for High-Dimensional Data Intervention Evaluation within a Multiple Linear Regression Framework 817
Jin, Lunwu; Kuang, Lei; Cui, Lanyue; Zhong, Xiaofen

A Study on a Multidimensional Feature Fusion Analysis Model Based on Fixed-Effects Regression and K-Means Clustering 823
Nie, Xia

Research on the Application of Big Data Deep Learning in Traceability and Risk Assessment in Clean Label Certified Food Supply Chains 829
Du, Ping; Wang, Zhuojun

Application of a Genetic Algorithm–Particle Swarm Optimization-Based Data-Driven Framework for Agricultural Cold Chain Logistics Network Layout Optimization 834
Tian, Runxian

A Study of Showroom Effects Driven by Hotelling Models and Game Theory 840
Yang, Xintong; Hu, Jiaqi; Yu, Jiayi

A Robust Optimization Model for Resource-Constrained Systems via Multi-Algorithm Fusion 846
Pan, Xuanrui; Su, Xiaohan; Xie, Yisheng

Application of Artificial Intelligence in Basic Personalized Learning Path Planning in High School 852
Yang, Yujie

Ensemble Learning Framework for Credit Rating Prediction: An Intelligent Soft Voting Approach with Multi-dimensional Risk Assessment 858
Zhang, Yanyu; Xiao, Shengdong; Cheng, Qixin; Xiao, Xiao

Development of a Human–Computer Interaction System and Machine Learning-based User Satisfaction Prediction 863
Zhang, Siyuan; Tang, Ying

Research on Collaborative Filtering Technology for Personalized Recommendations Based on Short Videos on TikTok 868
Ou Zhilong, Cai Yuying

A Deep Learning-Based Intelligent Misinterpretation Detection Algorithm for Cross-Cultural Communication 874
Ye, Shaomin; Ge, Liping

Application Model of Machine Learning in Intelligent Recommendation Systems for Educational Resources 879
Qianling, Li; Zhiyuan, Zheng; Lian, Zheng; Chunyan, Su

Enhancing Forest Fire Detection: Lightweight YOLOv8-AEC with EMA, CSPPC and Adown for Multi-Scale Targets 885
Xue, Guoxiong

Research on Real-Time Straw Density and Morphology Detection and Adaptive Baling Control Algorithm Based on Machine Vision 891
Lizhu, Cao; Pengfei, Li

DBNet for Robust Text Detection in Challenging Medical Packaging Images 897
Xu, Heng

A Deep Learning-Based Intelligent Detection Algorithm for Athlete Movement Recognition 902
Zhang, Kai; Zhang, Jia; Chen, Liang

Design of Low Voltage Electrical Cabinet for New Energy Vehicle Workshop Based on EPLAN PRO PANEL 907
Yuting, Huang; Mao, Ding

Error Analysis Model for Machine Learning Algorithms in Physics Experiments 911
Li, Cuihuan

A Fault Diagnosis Method for Aircraft Engine Bearings Based on Variational Mode Decomposition and Fused Features 917
Zhang, Shuoyan

Research on Complex Time Series Prediction Algorithm Based on ENA-SARIMA-LSTM Combined Model 922
Xi, Zeyu; Yu, Zihao; Zhang, Zirui

Research on Multi-stage Integrated Text Mining Method Based on IMTP Framework 933
Zhao, Duo; Ma, Fangying; Li, Mingxia

Research on a Sequential Optimization Framework Based on Feature Fusion and Dynamic Decision-Making 941
Yang, Ziyan; Mei, Shufen; Peng, Yanjun; Jiao, Liyuan

Nonlinear fuzzy sliding mode control based on adjacent cross coupled four cylinder synchronous system 947
Yunlong, Jia; Xinrong, Li; Wei, Li; Shuai, Zhang; Biao, Li; Tao, Yang

Multi-turn Conversation Intent Recognition Incorporating Historical Information 953
Wancai, Zhang; Wenqing, Yang; Nan, Zhan; Xishuan, Bu

Hierarchical Conversation Awareness Technology Based on Temporal Reasoning 959
Wancai, Zhang; Wenqing, Yang; Nan, Zhan; Xishuan, Bu

A Hybrid Model for Short-Term Photovoltaic Power Forecasting Based on CNN-BiLSTM and Scenario-Adaptive LSTM 965
Wu, Junjie

Computational Framework for Multi-Dimensional Parameter Prediction and Complex System Optimization Based on Weighted Ensemble Learning and NSGA-II Algorithm 972
Jin, Jiaying; Xu, Ruiyang

Intelligent Optimization of Children's Medication Regimen by Integrating Electronic Medical Records and Drug Knowledge Graphs 980
Si, Weichen; Ou, Yihao; Tian, Zhen

Design and Simulation of a Composite Beam Structure Based on the Differential Capacitive MEMS Accelerometer 986
Xiang, Jie

An Adaptive Framework Combining Simulated Annealing and Monte Carlo for Robust Coverage Optimization 991
Chen, Qiyao

A Hybrid Intelligent Computing Framework for Multi-Stage Analysis of Complex Forensic DNA Mixtures 997
Peng, Lingyi; Jiang, Xu; Xu, Duo; Qi, Weibo; Xia, Jiaqi

Research on Testing Methods for Abnormal Nodes in Edge Computing and Implementation of a Testing System 1004
Yang, Hong; Guo, Xiong

Integrated Mathematical Framework for Non-Invasive Prenatal Testing Optimization: Detection Timing and Abnormality Determination Using Deep Learning and Metaheuristic Algorithms 1008
Zhang, Fuhang

A Multi-modal Emotion Recognition Algorithm Based on Multi-scale Temporal Attention 1014
Liu, Zichen; Wei, Jia; Ma, Xinyue; Zhou, Zhuojiang

Research on Helicopter Flight Trajectory Control Based on Proximal Policy Optimization Algorithm 1021
Liu, Yijiang; Zhang, Yiping; Wang, Hong

Research on Helicopter Flight Safety Detection Algorithm Based on Weighted Calculation 1028
Wang, Hong; Liu, Fushuang; Liu, Yijiang

A Hybrid Heterogeneous CNN-LSTM Ensemble Framework for Sentiment Classification via Meta-Learning 1034
Cheng, Chuqiao

Application Model Construction of Digital Twin Technology in Machine Vision 1039
Cheng, Haodong

An Integrated Model of Speech Recognition and Machine Learning Technologies in Spoken English Teaching Platforms 1045
He, Kexin

Research on Deep Learning-Based Vehicle Number Plate Recognition Systems 1051
Jia, Rumeng

Communication Network Service Restoration Algorithm for Power Islands in New Power Systems 1056
Jiang, Yuelin

Ground Point Extraction from LiDAR Point Clouds in Diverse Terrain Environments and Corresponding DEM Construction 1062
Li, Zhen; Zhai, Ruicong; Zhang, Hanfei; He, Jinhua

FMCW Radar Based Age Group Classification System for Child Presence Detection Using Deep Learning 1067
Liping, Liu; Yihu, Sun; Zhun, Zhao; Lingyi, Liu

Study on Intelligent Recognition of Therapeutic Landscape Design through Computer Vision 1072
Chen, Zhipeng; Gao, Ze; Wei, Shuna

A Computational Framework for Coherent Laser Array Propagation: Integrating Uniform Coordinate Generation with Hierarchical Greedy Search Optimization 1078
Yan, Wen

Intelligent Monitoring and Flow Prediction for Complex Traffic Scenes Based on Deep Learning 1085
Gao, Xijun; Wang, Yiduo; Tian, Huijie

Research on Multi-Sensor Fusion-Based Gate Operational Status Monitoring and Early-Stage Disease Warning Technology 1091
Tu, Jianwei

RFID–Edge–Federated Learning Decision Support for Retired Power Equipment: Recovery, Dismantling, and Recycling in the Circular Economy 1097
Yang, Weijian; Zeng, Dongyu; Yang, Yufeng; Li, Quanyi; Su, Zechun

Design and Experimental Study of a Dance Imitation Scoring System Based on Computer Vision.....1104
Deng, Luyun

Optimization of Coordinated ESP and ABS Control Strategy and Real-time Simulation Platform Development Based on Simulink 1112
Zhao, Jie; Qian, Bingfeng; Zhai, Yuqing; Zhao, Zitong; Ma, Yan

Construction of Marketing Risk Early Warning Model Based on Improved ANN Algorithm 1116
Wang, Yingqing; Leng, Ningai; Yu, Zhoufan; Wu, Zhenyu

AI-Empowered Fusion Machine Learning for Intelligent Program Design: Model and Implementation.....1123
Ma, Yubing; Yan, Peng

Development of an Intelligent Spectrometer Refractive Index Prediction System Integrating K-Means/SOM Clustering and Deep Learning.....1128
Xu, Yitian; Wu, Xun; Dai, Yilin; Zhao, Zihan; Chen, Gang

Multi-Modal Financial Risk Prediction and Early Warning System for Enterprises: A Deep Learning-Enhanced Framework 1134
Zhou, Xiaofang

A Novel Hybrid Deep Learning Framework for Intelligent Fire Scene Reconstruction Based on Multi-Source Data 1139
Zhang, Jinfeng; Feng, Zhengyi; Zhu, Kaiming; Li, Wenjing

Modeling and Simulation of User Survival Space in UGC Platforms Integrating Sentiment Analysis and Behavior Prediction 1144
Yang, Shengjie

Design and Implementation of an Intelligent Traffic Management System Based on Improved YOLO and Multi-Modal Fusion.....1149
Zhang, Yonggan; Zhang, Xiaomin; Qi, Yuhan

Drug-Target Interaction Prediction Based on MACLDNN 1155
Yao, Bingying; Chen, Jianqiang; Ye, Qing

Research on a Collaborative Fine-Grained Measurement Model for Building Structures Using Laser Point Clouds and Computer Vision.....1162
Ma, Wentian; Yuan, Shasha; Li, Cong

Analysis of Cloud Computing Resource Scheduling Methods for Distributed Machine Learning 1168
Xu, Letian

Construction Project Management Knowledge Graph Construction and Path Optimization by Neo4j and GNN 1175
Wu, Shouyan; Li, Yang

Intelligent Installation Quality Control System for UHV Oil-Immersed Main Equipment under "Terminal-Edge" Intelligent Control 1181
Lu, Zhongqiang; Xie, Fangyi; Song, Tao; Ni, Xiangping; Guo, Fuxiang

A Multi-source Log Big Data Detection System for Mining Ransomware Attack Chains in Power Grid Dispatch Systems via Integrated Graph Neural Networks and Federated Learning..... 1187
Zhang, Zhaoxuan; Dong, Yangguang; Feng, Zixi; Liu, Bingchen; Xu, Xianjin; Li, Yangfei; Li, Yongjun; Hei, Yubo

Optimizing NIPT Timing through Integrated Modeling: A GAMM and Risk-Based Approach for Personalized Prenatal Screening..... 1191
Wang, Leyi; Zhang, Yeqi; Li, Yurui; Gao, Shilin

Research on Multi-Stage Vision-Control Coupling Algorithm for Bio-inspired Mobile Platforms 1197
Yu, Congzhi; Liu, Wei; Wang, Jing; Sun, Hongyan

Modulation of Multiple Motor Primitives via Personality-Affective Decision Outputs..... 1201
Zhang, Zihao; Chen, Yinghao; Ling, Xinyuan; Zhang, Chao

Research on Chinese Named Entity Recognition Based on ResNet Algorithm 1211
Liu, Xihui

Research on the Balance of Public Interests and Optimization of Energy Efficiency Governance in AI Collaborative Control of New Energy Microgrids in the Greater Bay Area 1218
Zhuang, Zhipeng; Wang, Fachen

Kinect-based Sports Training Assistance System..... 1224
Dong, Yongxiang

Attention-Based Hierarchical Collaborative Optimization for Multi-Agent Path Planning and Resource Allocation..... 1232
Gao, Wanxuan; Zhu, Yingqi; Wang, Ruimeng

Copper Price Forecasting of COMEX Copper Based on Machine Learning: A Comparative Study of LSTM, ARIMA, and SVR Models..... 1237
Tang, Jing; Li, Bo; Wu, Jing; Meng, Linhai; Feng, Xiaobin

Study on the Construction and Visual Analysis of Big Data Platform for Youth Football Training..... 1242
Abdukadir, Kamiran; Abdukadir, Kaian; Liu, Xu

Analysis of Traffic Flow Problem Based on K-Means Clustering Algorithm 1248
Li, Juwen; Tao, Chenggang

Research on Collaborative Natural Language Processing Algorithms for AI-Powered Teacher-Based Intelligent Tutoring Systems..... 1253
Lv, Wu

Design and Evaluation of a Dynamic Context-Aware Translation System in AR Scenarios..... 1259
Ren, Yanyan; Dang, Zhengsheng

Research on High-Precision Steel Defect Detection Using an Optimized YOLOv8 Model 1264
Fu, Bin

Market Penetration Forecasting for Autonomous Vehicles in China Using a Hybrid GRA-BiLSTM Approach 1270
Zhang, Fukai

Research on Entropy Reduction Mechanism Modeling and Optimization of Enterprise Architecture Systems Based on Data Mining 1275
Yang, Jingjing; Ao, Zhiqi; Hu, Junyang; Li, Xiaolu; Ke, Chun

Research on Auxiliary Algorithms for 3D Human Body Modeling in Virtual Try-On Technology: A Case Study of Parametric Human Body Model Algorithms 1281
Jing, Fei; Wang, Xia; Zhu, Li; Li, Lingzhi

Application of Hybrid ARIMA-Random Forest Model in Traffic Flow Prediction 1286
Qi, Yang

Research on Automatic Financial Statement Audit Algorithm Integrating Deep Learning and Machine Learning 1293
Ren, Shuyao

Hybrid Genetic Algorithm with Particle Swarm Optimization in the Fields of Artificial Intelligence and Data Sciences 1298
Jiahe, Niu

Monte Carlo Simulation of the Relationship between TARA Analysis Depth and Comprehensiveness 1305
Wang, Ziyi; Ji, Zongyao; Zhao, Xiong

An Intelligent Access Control Device Based on the OpenCV Vision Library and Raspberry Pi 1311
Jian, Dazhi; Li, Xiu; He, Miaomiao

System Robustness and Collaborative Optimization Based on Graph Model 1315
Xu, Qing; Li, Weiwu; Liu, Zhengying; Zhang, Zhen; Wang, Xinying; Li, Tianshou

Carbon Emission Conduction and Optimization Path Analysis Based on Graph Neural Network 1321
Tian, Yunfei; Chai, Yi; Peng, Jing

A Chinese/English mixed text proofreading algorithm for Central Asian universities based on transfer learning 1326
Li, Xingwang; Wang, Fangfang

Power Demand Forecasting and Decision Optimization Technology Based on Human-in-the-Loop 1333
Qian, Xiaorui; Zhan, Xiangpeng; Cai, Gaole; Zhu, Lingling; Xiao, Kai; Chen, Yuying

Deep Learning-based Air Pollutant Particle Prediction Model 1339
Han, Shaohu; Jiang, Mianyu; Wang, Hongkai; Chi, Zhanfeng

A Study of Reinforcement Learning Models for Computer Vision in Educational Scenarios 1344
Tang, Yan; Zheng, Lei

Design and Trajectory Tracking of Bionic Robot Fish with Propeller-SMA Tail Fin Hybrid Propulsion 1349
Wang, Jianlin; Zhu, Xiaoqing

A Comparative Study of Traditional Classification Algorithms and Deep Learning Models in Software Module Maintainability Evaluation 1359
Shan, Tingting

Fruit quality detection method via improved YOLOv8 1366
Li, Junhao; Li, Linlin

Research on Outdoor Parking Space Detection Based on YOLOv8 1371
Chen, Wen; Zheng, Yucheng; Huang, Tian

Optimizing Detection Timing for NIPT Based on Multi-Factor Analysis of Concentration and Characteristics 1377
Wa, Junhao; Wa, Weimin

Construction of a Machine Learning Model for Intelligent Ship Collision Avoidance in Intelligent Shipping Systems 1383
Zhao, Xiandong; Zong, Yonggang

Machine Vision Technology Empowers AI-Powered Ship Target Recognition Algorithms for Maritime Navigation 1389
Zhao, Xiandong; Zong, Yonggang

Application and Evaluation of an AI-Assisted Design Process in Textile Pattern Development 1395
Lin, Na; Xu, Xiaoming

Predictive Maintenance Model and System Integration for Warehouse Equipment Based on Digital Twins and Deep Learning 1401
Kong, Ruizhong

Design of a Quick-Change System for Gripping Mechanisms and Force-Controlled Gripping Planning for Warehouse Automation 1407
Su, Aiguo; Lin, Yayun; Wu, Lixin; Lin, Huabao; Guo, Shangling

Economic data anomaly detection algorithm based on machine learning 1413
Ke, Gongyu

Research on Interaction Design and Learning Adhesion in Large-Scale Online Practical Training Courses for Vocational Colleges: A Learning Analytics Perspective 1420
Li, Fangxue

Research on Prediction and Data Modeling Based on Machine Learning and Multi-Indicator Evaluation 1426
Chen, Yuxiao

Research on Energy-Saving Performance Optimization Algorithm for Prefabricated Steel Structure Enclosures Based on Deep Learning 1432
Wang, Lingling

Model Construction for the Application of Machine Vision in Intangible Cultural Heritage Image Recognition 1438
Chen, Linlan

Research on an Application Model of Action Recognition Technology in Human-Computer Interaction 1444
Ba, Hongbing; Wu, Xiaoling

Application of Deep Learning-Based Image Processing Technology in Historical Architectural Symbol Recognition 1449
Danlei, Ying; Dan, Tang; Junjie, Zhao; Hannuo, Lou

Research on Improving Context Coherence System of Multi-round Dialogue of General Electric Power Model by Reinforcement Learning 1455
Wu, Tianyi; Su, Lei; Xu, Xiangyi; Mao, Weiyun; Qiao, Liang; Hong, Yuan

Design of a Model for Building Excellent Management Capabilities for Multi-Agent Ecological Collaboration in Power Grids 1461
Hu, Zhiguang; Zuo, Hao; Yang, Jingjing; Gu, Weide; Zhang, Zhaoyang

Research on Optimizing Image Monitoring Algorithms for Substation Wastewater Using Convolutional Neural Networks 1467
Guan, Yanling; Fu, Lijun; Zhang, Jian; Zhang, Liang; Li, Guoxing; Wei, Bing

Thickness measurement model and experimental analysis of silicon carbide epitaxial layer based on multi-beam interference principle 1472
Xu, Xinwu

Research on Multi Beam Correction of Semiconductor Epitaxial Layer Thickness Measurement Based on Infrared Interference Method 1486
Wei, Fazheng; Liu, Jialin; Wang, Pengjie; Guo, Haoran

High-Precision Thickness Measurement of Epitaxial Layers Based on Multi-Beam Infrared Interferometry with Error Correction 1493
Sun, Haochen

Thickness Measurement of Silicon Carbide Epitaxial Layer Based on Savitzky-Golay Filtering 1499
Li, Yimeng

Blockchain Quantitative Model Training Method Integrating Image Processing and Federated Learning: Asset Price Prediction for Multi-Institution Privacy Protection 1507
Zeng, Xiaosen; Tian, Biao; Yang, Haoyuan; Zhang, Zhaoxuan; Li, Mengzhen; Wang, Yuwei; Chang, Yue; Hu, Yiyue; Zhang, Ziyun

A Study on the Electronic Differential Control Method for an 8×8 Distributed Drive Vehicle 1512
Zhang, Keji; Liu, Haitao; Zhang, Xian; He, Xingyun; Tang, Jing; Xu, Qian; Wu, Yinghao; Zhang, Peng

Data Privacy Protection Mechanisms and Challenges in Cross-Domain Network Communications 1520
Han, Zhexin; Ge, Yunlong

Research on Multi-Dimensional Dynamic Trust Evaluation and Strategy Self-Adaptation under Zero Trust Architecture 1525
Ge, Yunlong; Wang, Jue

Research on Reinforcement Learning Containerization Method Based on RISC-V Architecture 1532
Li, Andi

Research on AI-Based Optimization Design of Energy Heat Transfer Systems 1538
Wang, Yiwei

An AMP-based RT-Thread Porting Scheme for the FC7300F8MD Quad-core Cortex-M7 1543
Zheng, Tao; Liu, Kechi; Zheng, Xiuda; Deng, Hui

Research on Stock Market Sentiment Analysis Methods and Models Based on Image Processing Algorithms in Financial Markets 1548
He, Xuan

Research on Facial Expression Recognition Based on VGG16 Network Model 1559
Wu, Bingyuan; Yu, Yali; Lin, Yanni

Research on Performance Evaluation Algorithms of Machine Learning Models Based on Big Data in Remote Intelligent Terminals 1563
Guangdi, Zhang; Yi, Yang; Yiliang, Han; Xue, Li; Jingyun, Zhou; Zuocheng, Wang; Xiaoying, Wang

Closed-Loop Insulin Infusion Control System Based on Reinforcement Learning and IoT: Adaptive Glucose Management Algorithm for Type 1 Diabetes Patients 1569
Zhang, Rong

Application of Multimodal Artificial Intelligence Fusion Model in Individualized Prediction of Depression 1579
Zeng, Jianhao

Study on Inspection Path Planning of Warehouse Robots Based on Deep Learning 1587
Xu, Pan

Research on Path Planning of Path-Finding Robot Based on Optimized RRT Algorithm 1594
Zhong, Haijia; Luo, Haiyan; Chen, Yixin; Xie, Fucai; Lai, Fuming; Guo, Chuan; Sok, Mey

AI-Driven Intelligent Assessment for Higher Education: From Data Engineering to Trustworthy Online Evaluation 1599
Han, Xu; Shang, Peng; Lin, Yuan; Peng, Tongtong; Wang, Ruoming

Research on an Intelligent WeChat-Based Q&A System for Electricity Services Using Large Language and Speech Models 1605
Qiao, Xueming; Tang, Yao; Qiao, Linfei; Li, Baoxin; Yong, Qun; Meng, Lu; Li, Yuwen; Yu, Anqi

Research on Intelligent AI-Based Telephone Billing System Architecture and Application in Utility Services 1610
Qiao, Xueming; Lai, Xiaoshuai; Fan, Xiangchen; Yu, Weiwei; Li, Junwei; Meng, Ping; Han, Dong; Yu, Anqi

Research on AI Indoor Smoke Warning Technology Based on Image Recognition 1615
Wu, Wenjing; Long, Chao; Wang, Donglin

Research on Energy Management System of Energy Storage Flywheel 1621
Jing, Lili; Guo, Xiaoxia

Innovations in data stream processing by combining temporal databases with edge intelligence 1628
Fu, Fuming

Supporting Capacity Evaluation of Pumped Storage Unit Based on Evolutionary Combination Weighting-Cloud Model 1635
Zhong, Ziwei; Zhu, Lingkai; Zhang, Yuheng; Zheng, Wei; Shang, Panfeng

LiDAR Data Evaluation Model for Carbon Storage in Artificial Forest Based on Reinforcement Learning 1642
Beilei, Yin; Hamid, Hazandy Abdul; Kamarudin, Norizah; Liangcai, Li; Feng, Liu; Hailing, Liao

Metrics Prediction and State Transfer Analysis Based on XGBoost and Markov Chains 1648
Liang, Conghao; Zhang, Zitai

A Method and System for Generating Safety Measure Tickets Based on Relay Protection Secondary Drawings 1653
Pan, Susu; Chen, Qiongliang; Chen, Mingfeng; Li, Junqiang; Chen, Gang; Gao, Bingwei

Structural Design and Kinematic Simulation Analysis of Industrial Sorting Robotic Arm 1658
Zhang, Fubin

Research on Quantifying Model Uncertainty in Complex System Simulation Tests 1669
Wang, Kai; Li, Jianfeng; Han, Bing; Shi, Tongtong

Transformer-Aware Graph Convolutional Network for Anomalous Bitcoin Transaction Detection 1675
Fan, Junlin; Mao, Yapeng; Zhang, Shili; Tan, Ye

Transformer-Based Deep Learning Approach for Detecting Corporate Financial Fraud 1680
Chuanwang, Hu; Jinlu, Tang; Jianming, Jiao; Yihan, Shi

Risk Warning Model for Railway Meteorological Disasters Based on Random Forest and XGBoost 1684
Dong, Yan; Min, Jingjing; Xiao, Feng; He, Peng

DRNet: Dual-Stream Spatiotemporal Attention Neural Network for Real-Time Financial Risk Control 1692
Wang, Pulin

GNN-Hybrid: A Dynamic Residual Optimization Hybrid Learning Framework for Long-Term Sequence Prediction 1697
Zhang, Yuxin; Pan, Zitong

EEG-Based Epileptic Seizure Prediction Using Attention-Based Temporal Convolutional Recurrent Neural Networks for Cross-Patient Generalization 1704
Lv, Danyang; Chen, Cai; Sun, Jiazheng; Samuel, Oluwarotimi Williams; Zhang, Ningling

Research on an Intelligent Optimization Algorithm for Indoor Space Design Based on Deep Learning 1711
Binxi, Wu

Flexible Job Shop Scheduling Based on MBO with Integrated Queue Competitiveness 1716
Zang, Xiqing; Zhu, Long; Li, Xiaobo; Hong, Teng; Rao, Feng

Bi-level programming multi-agent distributed manufacturing task allocation method based on NSGA-II algorithm 1721
Zhang, Li; Li, Zhirui; Zhou, Shengwen; Wang, Liang

Research on Explainable Machine Learning Based on RBFNN - GARSON Algorithm 1727
Sun, Xinyan

Research and Development of a Fully Automated Testing Assembly Line for Electric Energy Meters and Collection Terminals 1733
Zhu, Wenjun; Zhang, Yuyun; Feng, Jiajun

Research on Optimal Operation of Microgrid Based on Digital Twin and Intelligent Decision-making 1737
Feng, Jiajun; Zhu, Wenjun; Zhang, Jiahai; Zhou, Qiang; Han, Dongjun

Research on Optimization and Control Mechanism of Intelligent Microgrid for Vehicle-Grid Interaction 1742
Feng, Jiajun; Chen, Yuanzhi

A Proxy Electricity Purchase Prediction Method Based on User Profile Analysis and Data Augmentation 1748
Wu, Dan; Zhao, Wanru; Lei, Ting; Sheng, Fangzheng; Chen, Sizhuang

Research on Distributed PV Disturbance Monitoring Technology Based on Dual-Peak Spectral Line Interpolation Algorithm 1753
Yang, Wang; Ping, Jing; Lei, Zhao; Yuejiao, Wang; Song, Yang

Terminal Optimization Layout Method Based on Hybrid Courtship Firefly and Genetic Algorithms 1757
Gong, Yucheng; Ding, Hao; Bo, Wen; Gong, Xueqing

Decision Making Assistance for Electricity Spot Market Based on CNN-XGBoost Integrated Algorithm 1762
Fan, Wenjie; Yang, Yue; Tian, Guiyang

Predicting Remaining Driving Range of Electric Vehicles Using a Lightweight Transformer Model in a Connected Vehicle Environment 1767
He, Zexi

Research on Intelligent Waste Classification Detection Based on an Enhanced ResNet50 1771
Guo, Chenlu

Research on Photovoltaic Coordination Strategies in Microgrid Laboratories from the Perspective of Digitalized Operation 1776
Jiang, Jianfeng; Feng, Jiajun; Han, Dongjun

Research on the Application of Long Short-Term Memory Based on Grey Wolf Optimization Algorithm in Energy Prediction 1781
Li, Nan; Qi, Jinsheng

Research on Intelligent Algorithms for E-commerce Logistics Distribution Path Optimization 1787
Cao, Xiaoqiao

A Clinical Voice-Interactive Electronic Medical Record Generation System Based on Multimodal NLP 1792
Sun, Zhipeng; Du, Mengze; Li, Jinna; Luo, Chunmei

Intelligent Agricultural Product Quality Monitoring System Leveraging Sensor Network Data 1797
Wang, Yu; Jiang, Pingjing; Yuan, Lidi

A Computational Framework for 3D Modeling Optimization: Comparative Analysis of UAV Oblique Photography Software Performance 1803
Lu, Fubin

Multi Objective Optimization Framework for Irrigation Systems Based on Deep Learning: A Robust Decision-Making Method Integrating CNN BiLSTM and NSGA II 1808
Xu, Yinxiang

Research on Crop Key Parts Detection Model for Pruning Scene Based on Improved YOLO11 1814
Dong, Haohui; Zhang, Yaoyuan; Ma, Changchang

Author Index