2024 5th International Conference on Artificial Intelligence and Computer Engineering (ICAICE 2024)

Wuhu, China
8-10 November 2024

Pages 1-593

IEEE Catalog Number: CFP24Z07-POD
ISBN: 979-8-3315-2892-8

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: CFP24Z07-POD
ISBN (Print-On-Demand): 979-8-3315-2892-8
ISBN (Online): 979-8-3315-2891-1

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

Research on QoE-driven panoramic video bit rate selection strategy under edge computing 1
Jingxin Yan, Wei Dong

The Research and Analysis of Robust Image Steganography for Arbitrary Style Transfer 12
Boning Zhang, Dongjun Tan, Wujian Ye, Xueke Zhu, Yijun Liu

A Cooperative LiDAR Perception Method in V2I Scenario 16
Zhiyu Fang, Boyang Li, Mingyue Cui, Kai Huang

Automatic Detection of Ocular Surface Disease on Smartphone Images Using Improved YOLOv5 21
Rong Chen, Enze Song, Tianyu Wang, Ziang Zhou

Artificial Intelligence in Standard Knowledge Services: Roles and Implementation 25
Xiaoxin Gao, Ming Sun, Dong Zhang, Yao Lu, Yuangeng Zhu, Yazhou Mu

Efficient Plug-and-Play Module for Transformer-Based 3D Human Pose Estimation 29
Yaru Qiu, Jianfang Zhang, Guoxia Wu, Yuanyuan Sun

A New Optimization Method to Real Time Streaming Protocol 35
Taizhong Zhang, Guanghao Jin, Jianxing Yang

Bridging the Gap using Contrastive Learning and Semantic Consistency for Unsupervised Neural Machine Translation 40
Chuancai Zhang, Dan Qu, Liming Du, Kaiyuan Yang

SFNet: Dynamic Memory Action Recognition Based on Point Weighted Attention Enhancement 47
Yajing Tang, Qun Fang

Survey of Semantic-Based Image-to-Image Retrieval 51
Danyang Cao, Hongbo Zhou, Huifang Yang

Chinese Named Entity Recognition with Integrated Channel Attention 55
Wei Song, He Zheng, Wei Guo, Keqing Ning

Method for Multi-Hop Question Answering Based on Knowledge Graph with Fusion Path 64
Qiuxia Zhang, Chun Zhang, Ning Zhang, Qiutang Zhang

A Component-aware Chinese Font Generation Method based on Multi-scale features 68
Xiaoqi Guo, Cunrui Wang, Guodong Zhan, Juxiang Zhou

Power Grid Transient Stability Assessment Method Based on Big Data Analysis 75
Wei Shao, Shanshan Hong, Jian Guo, Dandan Xie

An Improved YOLOv5-Based Method for Small Object Detection in Aerial Images 81
Senyan Zhao, Chao Zheng

A Comparative Study of Bug Triage Representation and Classification Approaches from Canonical to Large Language Models 86

Fabiano Tavares Da Silva, Felipe Rocha De Ara´ Ujo, Erick Costa Bezerra

On the Information Cocoon Effect in the TikTok Recommendation Algorithm 94

Ping He, Bo Yuan

A Knowledge Distillation Strategy with Multi-Prompt Learning for Aspect-Based Sentiment Analysis 99

Hui Wang, Luyao He

Text-driven Image Inpainting with Cross Attention Control 103

Danni Luo, Meiqing Wang, Hang Cheng, Fei Chen, Binyan Chen

Image recognition technology improves the efficiency of historical drawing management in archives 108

Jing Li, Lijuan Duan, Hui Wang, Wenjie Ma

Deep attribute graph clustering based on dual information comparison strategy 112

Shuqiu Tan, Lei Zhang, Yahui Liu

An optimization method for traffic signals oriented towards multi-priority vehicles 119

Qinghan Huang, Lei Nie, Dandan Qi, Qiuming Ai

A lightweight model based on YOLOv8 for landslide segmentation in remote sensing images 124

Yaning Liu, Hong Liu

Multi-Level Relation Embedding with Attention Mechanism for Few-Shot Remote Sensing Image Scene Classification 128

Zhongjie Li, Shoujun Yan, Lijie Zhou, Lifeng Song

Named Entity Recognition of Chinese Intangible Cultural Names Based on Part-of-Speech Tagging 135

Wei Zhou, Hongjie Li, Jing Yang, Jinghao Fang

Neural Network-based Analysis of Local Extreme Cold Events in the Context of Global Warming: Causes and Predictions 142

Mao Zhang, Ying Peng, Yuming Zeng, Yabing Chen

PGPNet:a novel iterative partial-global-partial point cloud registration method 146

Yifan Feng, Qingzhen Bi, Zhouyi Lin

Semi-Supervised Subspace Clustering based on Tensor Low-Rank Representation with Weighted Tensor Schatten-p Norm 153

Qi Cao, Yang Mu, Jianping Hu, Jinni Yu

Semantic segmentation of road landscape based on improved Deeplabv3+ 158

Huanlang Wang, Bin Gao, Shutian Liu, Zhengjun Liu

Probability-Selected Demonstrations for Enhanced Zero-Shot In-Context Learning 163

Bingyang Bai

Efficient Learning and Face Detection Tracking Based on Artificial Intelligence Algorithm 168
Xiaowei Chen

A Hybrid Model of Multiple CNNs with Attention Mechanism for Optimized Facial Expression Recognition 174
Wanqiu Chen, Yuting Sun, Yihao Yang, Jiaxu Yu

Multi-Scale HyperGraph Node embedding via Random Walking for music recommendation 179
Zhengwu Yuan, Qiuliang Wang, Hao Yang, Hanqing Yang

Vehicle Small Target Detection Algorithm for Remote Sensing Images Based on Improved YOLOv7-tiny 183
Qingqi Zhang, Xinbo Wang, Hao Wang, Jie Li

Research on Tibetan verb character recognition based on Bert model 188
Ruohan Tian, Dunzhu Laba, Peilin Song, Ziheng Xu

Temporal Knowledge Graph Completion Based on Temporal Dependency and Commonsense Guidance 192
Yunsen Tian, Zhen Zhao

Multi-Label Text Categorization Model Based on Semanteme and Label Knowledge Guidance 197
Chunhui Zhao, Jinxin Si, Fuyong Sun, Shijie Gao, Xin He, Zehao Yu, Jiangbo Yin, Yueyuan Wang

Research on Feature Extraction and Classification for Unstructured Data based on Deep Learning 203
Huayan Yu

Adversarial Attack on Image Classification via GANs and Statistical Analysis 208
Yuan Yuan, Hongyu Wu

Virtual Screening of Natural Anti-Senescent Compounds Based on Sq-TabPFN 213
Haoyang Tang, Yanhong Li, Xinyue Yao, Chenyang Fan

Traffic sign recognition in rainy, snowy and foggy weather based on improved YOLOv8 219
Cong Zhang

The Research Focuses On The Classification And Recognition Of Speech Imagery EEG Signals Based On A Fusion Network Autoencoder 223
Wenyao Yuan, Deli Fu, Weiping Hu

A method for modeling employee portraits in state-owned enterprises based on artificial intelligence and its application 228
Youping Liu, Fan Hou, Kaiyue Yang

A perception method of direct sequence spreading spectrum signal based on an improved residual neural network 233
Hang Zhang

Research on the Medication Rules of Ancient and Modern Prescriptions for the Treatment of Chronic Obstructive Pulmonary Disease based on Data Mining 239

Yifan Wang, Tong Zhang, Li Wang, Shiyang Zhang, Can Yang, Weiting Wang, Wen Li, Hailin Xu, Hui Wang, Fengying Guo

Research on Intelligent Detection Method of Power Transmission Components Based on Image Enhancement 250

Mingxuan Li, Wenpeng Cui, Zhe Zheng, Yu Liu, Qingchen Yang, Yuzhe Chen, Wanpeng Guo, Weiwei Zhang

Functional Gradient Plate Intrinsic Frequency Analysis Based on Fitting Deviation Optimization Physical Information Neural Networks 255

Shuangcheng Rong, Jianzhong Hu, Rongzhong Ma, Jin Wu

CRaFR: Connected Retrieval and Feedback Reading for Open Domain Reading Comprehension 261

Yu Zhang, Bo Shen

A Information Extraction Method for Electromechanical Equipment Fault Diagnosis Knowledge Graphs Based on Deep Learning 265

Jiahua Chen, Jianzhong Hu, Qianfei Zhou

Precision Diabetes Risk Assessment: A Feature Grouping Approach to Model Optimization 276

Aohan Ji, Zhangyi Shen, Bingqing Ye, Yu Jiao, Yunfei Niu, Kaizhong Zuo, Peng Hu, Wenjie Li

Fine-Grained Gesture Recognition Based on Machine Learning via RFID 287

Yuankang Wang, Yajun Zhang

Low-resource Causal Relation Extraction With Semi-Supervised LLM Augmentation and Validation 293

Xin Liu, Yucun Li, Zongpeng Li, Zhi He, Lin Liang, Chunfeng Shao, Jingde Yan

3D Spleen Image Registration Method Based on Reinforcement Learning Stochastic Planner-Actor-Critic model 298

Demin Liu, Yudan Xie, Guocheng Han

Fingerprint Recognition Based On Convolutional Neural Network 303

Nathaniel Amadu, Fadila Wendigoundi Douamba, Muhammad Ibrahim Umar

Memento: A New Multithread Deterministic Replay Debugging Method 310

Wei Jiang, Yubin He, Huijie Gu, Kemeng Liu, Yaping Hu, Jin Li, Wenkai Ai

Task Assignment Algorithm Based on Improved MADDPG 326

Yuhang Zhou, Baoheng Zhang, Qingzhong Yan, Xiang Wu, Yuming Bo

Toward Accurate Label-Free Immune Cell Counting via Enhanced YOLOv8 with Inverted Residual Mobile Blocks and Mixed Self-Attention Convolution 333

Xinyao Wang, Yubo Xuan, Xuanyou Li, Yongkang Zou, Dayu Li, Shidong Zhang, Ting Liu

Determination of calorific value in coal using laser-induced breakdown spectroscopy combined with machine learning algorithms 339

Hongyan Dang, Xiaoli Liu, Jinlan An, Tianyun Ren

Study on intelligent data assimilation method based on Equivalent-Weights Particle Filter 344
Kefei Yuan, Hao Zheng

Gait prediction study under medical knee pads based on Arctic Puffin optimization and VMD decomposition 352
Xinze Zhang

Airport crowd counting technology based on approximate scene initialization 356
Yu Zhou, Keshu Feng, Qiyuan Wu, Lianjun Zhang, Xiaodong Wang

Research on multimodal data fusion based on optimal adaptive coding 364
Yanhong Ma, Yijie Qin, Hong Zhang, Kun Jiang

A Radar Degradation Fault Data Forecast Method Based on Dynamic Neural Network 370
Yuting Zhai, Zhanxin Cheng

Integrating hidden features of ELM auto-encoder for cancer multi-omics data clustering 374
Xin Duan, Chuanxin Hu, Manyu Yun, Haiyan Liu

FM-GAN: A Novel Algorithm Based Data Generation Methodfor Rolling Bearings under Imbalanced Samples 378
Le Guan, Li Zhu, Hongsen Zhao, Zhen Wang

Research on intelligent traffic pedestrian detection algorithm based on improved YOLOv8 384
Yurong Yue, Xiaoyang Kong, Rui Pan, Wei Shan

Continuous Wavelet Transform Based on A-Weighting 389
Baijian Wu, Gang Yu

Lightweight small target detection algorithm for UAV infrared aerial photography based on YOLOv8 395
Jinfeng Li, Xiaodong Zhu, Wei Shan

Research on kiwifruit detection algorithm based on Faster-YOLOv8n 399
Dan Zhao, Jiaxing Wang, Wei Shan

Analysis and Forecasting of Temperature Based on Temporal Fusion Transformer Model: A Case Study of Urumqi 404
Xinjun Song, Haiyang Sun, Shiyang Zhan, Jin Ran, Di Hou

Application of Attention Mechanism-Based Neural Networks in Predicting Chemical Molecular Properties 410
Junhao Lin, Weifeng Jiang, Shaohong He, Junyuan Ma

"Prediction Study on the Removal Efficiency of Arsenic Ions in Water Using Modified Biochar Based on Machine Learning 415
Xuhao Zhou, Yongoeng Ban, Zuoya Sun, Xuezhi Yang

Road Object Detection Algorithm Based on Improved YOLOv8n Model 419
Hu Da, Shengyue Zhang, Ruilong Fan, Peng Ma, Jun Wei, Han Bao, Xinli Hou, Quanhong Tian

Study on Chinese Lip Reading Recognition Algorithm Based on Mixed Decoding Strategy with Conformer Architecture 426
Yun Yao

Multi-AGV Formation Path Planning Based on an Improved A* Algorithm 431
Zhiyong Fan, Delu Xing

The digital twin approach to fusion igniter performance based on artificial intelligence 438
Pan Liu

Research on Network Data Anomaly Detection Method under Zero Trust Model 442
Libin Li, Kai Ma, Jia Wang, Bin Ren, Yongjiao Cao

A Deep Learning-Based Algorithm for Detecting Occluded Vehicles in Remote Sensing Images 447
Jiapeng Shang, Xinbo Wang, Hao Wang, Jie Li

FR-CBAMNet: A Face Recognition Algorithm by Fusion of Transformer and CNN 451
Zhenzhen Wang

Research on Anime Recommendation Algorithm Based on Parallel Feature Interaction 455
Wenke Hou, Yansong Li, Zibo Liu, Zhiguo Zhou

Big Data and Spatial econometric analysis of the layout of public transport stations in Wuhan and Zhengzhou 460
Hao Ding, Zhiye Guan, Xinruo Ruan, Ping Zhang

A Lightweight Cassava Leaf Disease Classification Algorithm Based on Iterative Weight Recycling 470
Chuangqi Li, Guimei Cui, Xiangmin Ji, Guodong Peng

Artificial Intelligence-Based Computational Analysis and Optimization of Civil Engineering Structures 475
Zhenhuan Lai

Optimization of XGBoost algorithm for road traffic flow regression prediction based on four-vector algorithm 479
Yuzhu Yang, Dan Zhou, Zeyu Xie

A Compressed Post-processing Algorithm for Online Data Detection Model Based on Knowledge Distillation 484
Xin Zhang, Fengru Jia, Yinfei Xu, Zhigang Xing

Edge Cache and Computing Resource Migration Strategy for New Power Systems 491
Yuefei Xu, Fengru Jia, Yunlong Chen, Yinfei Xu

Sequential Recommendation Based on Bi-LSTM and Fourier Transform 498
Mengtao He, Lin Cheng, Xiaojia Wu

A Method for Generating Scenarios based on PC-Crash Accident Data 504
Yanhong Fu, Yang Zhai, Guoping Xu, Qiang Wei, Jingwen Fu, Dandan Lv

FL-RDGRU: A Federal Learning Traffic Flow Prediction without Memory Loss 508
Bingbing Li, Xiaoyu Wang, Jing Li

Research on Traffic Flow Analysis Based on LSTM Algorithm 512
Yuxia Du

Optimization Research on Deep Learning-based Image Classification Algorithms in Computer Vision 516
Tianyi Sun

Optimization of deck barge fleet stowage based on an intelligent optimization algorithm 520
Jihe Chen, Yunhua Guo

Tail Risk Alert Based on Conditional Autoregressive VaR by Regression Quantiles and Machine Learning Algorithms 527
Zong Ke, Yuchen Yin

Link Prediction in Directed Graphs via Dummy Node Line Graphs 533
Yu Liu, Yuan Jiang, Pei Shen, Jie Jia

Research on the Application of Deep Learning-based Product Spray Code Text Recognition Algorithm 538
Mingxing Fan, Kairong Lin, Longhui Wu, Hao Feng

Research on the influencing factors and crime prediction of drug crimes based on decision tree algorithm 543
Shaobing Wu, Changmei Wang

Region target tracking and counting method based on YOLOv5 and DeepSORT 547
Nan Wu, Lianfei Nie

Implementing Digital Recognition Based on Transmissive Optical Neural Networks 553
Yu Rong, Jiale Gao, Kun Kang, Wei Hong, Wenhua Gu, Yefeng Yu

Optimization of Distributed Algorithms in Cloud Computing Environment 559
Yulong Cao

Research on Classification Identification of Surface EMG Signals Based on Deep Learning 564
Yumeng Lu, Long Ling, Zhenjie Zhang, Jingping Deng

A 3D reconstruction method based on adaptive conditional filtering point cloud post-processing 568
Weibo Wu, Feiyun Xu, Hongliang Chen, Bing Liu

Heterogeneous Graph Neural Network Focused on Structural Features for Link Prediction 577
Longjie Bai, Yongli Wang, Dongmei Liu

Tobacco-Seg-YOLOv11 for image segmentation algorithm of flue-cured tobacco under complex background 583
Lin Zhang, Qiaohui Hu, Kaihu Hou, Jie Long

Color Analysis and Application of Mongolian Traditional Costumes Based on K-means Clustering Algorithm 589
Jiani Song, Chengjun Zhou

A Chinese Address Parsing Algorithm Based on Mengzi-BiLSTM-CRF 594
Chunzhao Li, Dong Liang

Deep Learning Seismic Detection on Fixed-Point Deformation Data A Case in Tianjin, China 598
Zhao Peng, Yongqian Shao

Exploration of Innovative Imputation Techniques for Missing Data in Multivariate Time Series 605
Yuhui Zhao, Zhaoqi Liu, Ruixin Guo, Wenlong Li

Research on Automated Text Summarization of Medical Literature using Transformer Models 610
Yongjie Hu

Data Visualization Analysis of Research Hotspots and Trends in Low Carbon Campus Studies 614
Fei Li

Forecasting Shanghai Containerized Freight Index by CPO-VMD-PE-ELM Model 619
Nan He, Wengwang Wang, Jing Wu

Quality Prediction of Health Articles Based on the BERT-WWM Model 623
Yuke Luo, Ke Hou

Research on Event Driven Dynamic Graph Processing System 627
Kaisen He

Research on Optimized Design of Generative Artificial Intelligence APP Based on Kano Model 635
Baoshui Liu, Zhengcong Wei, Zhixin Zhang

Beef quality management under full chain monitoring: innovation integrating IoT and blockchain 640
Jun Wu, Xianglin Bao, Ping Zhang, Xiaofeng Xu, Tao Liu, Jinglei Han

Development of a Virtual Simulation-Based Automated Production Line Experiment Platform 646
Jie Xu, Shuqian Zheng, Ye Zhang

WheatNGP: Neural Radiation Field Optimization for Wheat Flocks Under Boundless Free Trajectories 651
Liming Tian, Yaru Qiu, Guoxia Wu, Yuanyuan Sun

Research on Deaf-mute People Translation System based on Natural Language Processing 658
Tianyi Zhang, Sherry Liao

Survey on Deep Learning Applications in Automated Chinese Poetry Composition 662
Danyang Cao, Cheng Cheng

Design of Electric Vehicle Helmet Wearing Detection System Based on YOLOV5 Algorithm 667
Jie Zhang, Shuai He

A Lightweight Neural Network for Ocular Surface Disease Recognition 671
Rong Chen, Enze Song, Pengfei Xie, Ziang Zhou

Multi-modal Emotion Recognition Network with Balanced Audio-visual Feature Extraction 675
Zeyu Chen, Yiming Wu, Ronghui Cao

Joint Extraction Model Based on Feature Partition and Fusion 680
Runmei Zhang, Zhaoyang Ren, Lei Yin, Mingxi Wang

A Efficient DNN Sparsity Framework with Data Pruning and Auxiliary Network 685
Enping Guo

Research of Knowledge-Enhanced Large Language Model Based on Knowledge Graph 693
Qi Meng, Zhenglong Wu, Zhongshi Zhao, Xi'nan Lian

Token Embedding Graph Neural Network for Paper Classification 698
Shuchen Cai, Xiaoying Gan

A Two-Stage Emotional Dialogue Generation Model Based on DialoGPT 703
Xiaoyang Ma, Weiqi Chang

Overview of Surveillance Video Compression for Power System 707
Lucheng Li, Xinwei Hu, Weijun Zhou, Penghui Zhang, Li Cai

High-Performance Sensing: Application of FPGA-based Winograd CNN Accelerator in Electronic Nose Systems 712
Aolong Tan, Shukai Duan, Mingzhe Chen, Ke Ding, Changqing Li, Lidan Wang

The AOA-CNN-Attention-GRU Model for Predicting PM2.5 Concentration 716
Ge Ma, Hui Han, Motong Gao, Xiaoming Bai

Graph Neural Network with Propagation Operators for Diverse Recommendation 720
Weiwu Yang, Liang Zhou

An Image Based Automatic Water Level Monitoring System 724
Yinghong Wang, Ming Li, Fanglin Chen, Jun Xu, Guangming Lu

Population density estimation network based on local global feature fusion 732
Lihua Gou, Xiaoqing Yang, Senlai Zhu

Web-Based Virtual Simulation Instrument Configuration Development System 736
Kai Wang, Qilai Zhu, Yanxiang Wang, Wenlin Zhang

High Precision Indoor Positioning Management System for Hospital Person&Equipment Based on UWB/BLE Fusion 741
Xiaofu Du

Research on the Construction of Knowledge Graphs for Optical Communication Networks and Equipment 746
Wei Ming, Li Du, Li Wang

Directed Adaptive Multi-Channel Graph Convolutional Network 755
Longxue Wu, Yuan Jiang, Junliang Li, Jie Jia

Design of interactive teaching system based on wireless charging technology 759
Danfeng Ou, Zhenhong Luo, Xingzhi Lin, Xiang Pan

A Context-based Multi-Modal Convolutional BiLSTM Network for Automatic Sleep Staging 764
Lijuan Chen, Lei Wang

AFN-YOLO: Adaptive Frequency Network for SAR Ship Detection in Complex Inshore Background 768
Sihao Dong, Baohua Zhang

Exploring the Architecture and Functions of Intelligent Database Management Systems 772
Xiaozhong Wang, Yang Wang, Guangchao Deng, Yunzhi Shi

Intelligent Orientation Robot Based on Large Language Models and Retrieval-Augmented Generation 779
Xinying Deng, Dongju Yang, Yuan Zhang

Q2Cypher: Converting Natural Language Questions to Cypher with Fine-Tuned Large Language Models 783
Yunqi Zou, Yongli Wang, Dongmei Liu

An Energy-Efficient Routing Protocol Based on Ordering Points and Shared Neighbor Degree in WSNs 789
Saijie Shen, Feng Xu

Tour Guide Robot Based on Large Language Model and User Behavior Analysis 794
Haoran Lin, Jing Wang, Yutong Zhan, Yuan Zhang

Rumor detection model based on GAT and multimodal feature codingmes 799
Hu Luo, Mingshu Zhang, Facheng Yan

New Approaches to Automated Software Testing Based on Artificial Intelligence 806
Yuli Zhang

Design and Verification of 1553B Communication Interface based on SoC chip 811
Ying Zhang, Jin Wen, Yu Pan, Shuangchao Qu

Multi-hop financial knowledge question-answering model based on knowledge graph 815
Qi Pei, Shiyuan Tong, Danhua Ye, Yidi Han, Hong Liu

A Web Service for HTCondor Scheduling System 821
Heng Zhang, Xiaotian Zhang, Guorui Chen, Yunpeng Zhang

An Efficient Training Framework for Chinese Text Classification: Integrating Large Language Models and Reinforcement Learning 825

Teng Wang, Zhenyu Xue

Advances in Electronic Health Record Analysis for Diabetes Risk Prediction: A Machine Learning-Enhanced Framework 830

Bingqing Ye, Zhangyi Shen, Aohan Ji, Yu Jiao, Yunfei Niu, Kaizhong Zuo, Peng Hu, Wenjie Li

A model based on RETE algorithm for generating management and control measures for key personnel of infectious diseases 840

Jinglong Chen, Yao Hu, Xueying Feng, Feng Dai, Yanquan Luan, Qun Yuan, Biao Du

Self-supervised Learning Recommendation with Enhanced Long-tail Nodes 850

Zhiyu Zhao, Yongli Wang, Dongmei Liu

Deep Learning-Based Short-Term Heavy Rainfall Model 857

Ao Shen, Xianwei Meng, Lin Jia, Zhaohui Tan, Hengyu Zhou

DAG-AVAE: Combining GAN with Adversarial VAE to enhance causal structure learning 861

Tao Jiang, Qingsong Cai, Ming Jia, Xuanzhi Cai

YOLOv10-LPRNet: a three-region multi-license plate recognition model based on YOLOv10 and LPRNet 869

Yintang Huang, Junshen Hong, Yixin Huang, Han Chen, Youyu Zhou, Yixian Liu, Chengxuan Yu

Research on Generative Adversarial Networks of Pore Structure Prediction in Geological Samples 873

Zhuoxin Liu, Yanli Feng, Xinmiao Lai, Bowen Yi, Jitong Xiao

Intelligent Clinical Diagnosis and Treatment Model for Hemorrhagic Stroke Using Ensemble Learning Algorithms 877

Xingcheng Liang, Zhenhua Zhang, Rujian Mo, Zhibiao Zhou

A General Multi-scale Time and Channel Spatiotemporal Model for EEG Signal Classification 885

Yamin Fu, Xiaohong Liu, Yanjie Cui, Jing Liang

LDA-UNet: A Lightweight UNet with Multi-Dimensional Selective Attention for Efficient Skin Lesion Segmentation 890

Qingyang Gao, Jingjing Ma

Hot rolling planning based on deep reinforcement learning 895

Jingliang Wang, Yanguang Sun, Jiachen Gu, Jinxiang Chen

Sensor layout optimization for sand mill Using DEM Coupled with CFD 903

Xiaodi Ma, Kang He, Bo Wu, Xiaobiao Li, Fei Sun, Chengcai Xi, Bin Cai

Enhancing Lane Detection from Multi-frame Continuous Driving Scenes Using Deep Neural Networks 910

Minghao Luo

Optimization Design of Internal Unstable Flow Characteristics in Centrifugal Pumps Based on Support Vector Machine 916

Yuqin Wang, Jiale Shao, Hanbing Sun

Multi View Real-time Control Method of mechanical arm for Live Working in Substation Based on SIFT Algorithm 922

Kang Chen, Ruohan Xu, Dapeng Ma, Rundong Yang, Xin Zheng

Based on optimization LSTM model of the valve cooling equipment fault diagnosis method of parallel research 927

Shi Jiao, Yuhang Luo, Mingming Zhong, Guote Liu, Sijun Chen

Application of AutomationML/OPC UA in robot interoperability 932

Siyuan Chang, Hualiang Zhang

Research on Mine Personnel Helmet Detection Based on Improved YOLOv8n 938

Ying Cao, Mingliang Li, Liya Zhang

Detection of running path of rCore operating system by instrumentation 944

Fengshan Shen

Enhanced Soft Fault Diagnosis in DC-DC Converters Using Sparse Representation and Markov Transition Fields 948

Muhammad Ibrahim Umar, Guoqing Zhang, Masud Rana Md, Jean-Baptiste Martinez, Yang Liu

Parallel deep reinforcement learning based fault diagnosis study of flexible straight valve cold main circulating pumps 956

Yue Chen, Shi Jiao, Jiancheng Zhang, Guote Liu, Sijun Chen

Acoustic Detection of Lining Void: Realization with Light-weight Algorithms and Edge Devices 961

Guan Wang, Mei Wang, Liyan Luo, Zhenghong Liu, Yingjie Zhong

Research on PCB Defect Detection Algorithm based on improved YOLOv8 967

Runmei Zhang, Shi Kai, Lei Yin, Chenfei Pan

Enhancing Large-Scale Pre-Trained Models with Mixer for Far-Field ASR 972

Tong Niu, Yaqi Chen, Dan Qu, Hengbo Hu

Prediction of Burn-Through Point in Sintering Process Based on Improved Hybrid Optimization Algorithm and TCN-BiGRU-AM 977

Jiayin Chen, Liefa Liao, Jiale Wu

Intelligence demand-driven automatic path planning study for substation inspection robots 983

Hongkai Wang, Jun Feng, Shuai Zhao, Yidan Wang, Haomin Song

A novel risk analysis method based on LPFS and TOPSIS with application in railway risk analysis 987

Yuhan Guo, Fei Gao, Weikai He, Wenjiang Liu

MERCA: A Multi-objective Optimization Traffic Light Control Model 999

Yi Zhu, Yongli Wang, Dongmei Liu

The Current Research Status of Unmanned Aerial Vehicle Maneuver Penetration Decision-Making 1007

Yutao Zhuang

Identification of High-Potential Technology Opportunities in Integrated Circuits from the Perspective of High-Quality Outlier Patents 1012

Ming Zhao, Boyang Zhu

An Automatic Question and Answer Method for Hybrid Strategy of Electric Power Customer Service Based on Multi-dimensional Features 1018

Yuxuan Zhao, Jinhui Zhang, Yuxiao Zhao, Shijie Hu, Binhao Huang, Zheng Wang, Kang Wang, Wang Luo, Wensong Liu

The ship edge detection based on high and low thresholds method 1024

Ye Li

Design of SPWM Controller Based on FPGA 1029

Jiesi Na

Application of CNN and its Fusion Model in Concrete Crack Detection Modeling 1033

Lai Xu

HA-YOLO: A real-time method for detecting surface defects in steel 1038

Yanan Wang, Jinyao Duan, Jie Huang, Kuan Fu

Fatigue detection based on multiple physiological signals 1042

Yang Xi, Hao Wang, Zhenyu Wu, Tao Jiang, Yu Gao, Jianlou Lou

Coupled Lateral and Longitudinal Control Systems with Planning for Autonomous Vehicles 1046

Zhicheng Zhang

Reverse Margin Inference Attack: Overcoming Adversarial Robustness via Margin Loss Manipulation 1052

Jingyi Li, Jinliang Xue

Research on Turnout Fault Diagnosis Model Based on GADF-CNN-MAML 1057

Lang Du, Sheng Liu, Ting Cao, Tong Zhang

Lightweight Pose Estimation Based on Adaptive Robust Loss and Attention Mechanism 1063

Lianxi Zhou

Maneuvering Decision Modeling Method Based on Attitude Controller 1069

Yingfu Yu, Yupeng Fu, Ziqiang Zhu, Jun Fang

Transmission line power fixture defect detection method based on Mobile-YOLOv5s 1074

Yunhao Yang, Wenmiao Wei, Jinpeng He, Lihua Zhang, Wenzhao Liu, Ji Huang

Hot Rolled Wire Tracking Based on Adaptive Threshold Algorithm 1078

Shumao Zhao, Zhuolun Han

Integrated detection of coarse-grained ship trajectory anomalies based on trajectory clustering 1083

Ailin He, Feng Shi, Yu Zhang

Automatic Segmentation of Remote Sensing Agricultural-land Based on SAM 1089

Weiqi Chang, Xiaoyang Ma

Enhanced YOLOv8 Model for Insulator Defect Detection Using Generalized Loss and Depthwise Convolution Techniques 1093

Song Yang, Ming Liu, Xinqiang Wu, Qi Cao, Haolin Li, Ming Liu, Feng Wang

Key Technologies for Enhancing the Communication Performance of Anti-misoperation Device 1098

Shuai Fu, Hualiang Zhou, Zhantao Su, Huang Jin, Yong Wang, Hao Lv, Bianjun Li, Yiliu Xu

Fire and Smoke Detection Method in Diverse Scenarios Based on YOLOv8-FD 1104

Ziyu Wei, Xiaoya Liu, Yaru Qiu, Yuanyuan Sun

Study on wind power prediction by integrating multi-source factors and deep learning 1110

Hao Ding, Xingyu Chen, Shilin Song

Study of lithium battery charge state estimation based on improved particle filtering algorithm 1115

Xiyan Pu, Kun Xie, Ziliang An, Yingjie Zhang

Research on Automatic Detection of Cracks in Wind Turbine Blades Based on Multi-scale Feature Fusion 1120

Zichen Li, Jiangyue Liu, Dan Wang

Construction waste detection based on improved YOLOv8 1125

Dongmei Zhou, Yu Guo

Continuous finger joint angle estimation by a sEMG-FMG-driven explainable gate-recurrent unit network with cross-modality multihead attention 1132

Zhouping Chen, Hong Wang

Research on Multi-Stage Path Planning for Human-Multi-Robot Collaboration Assembly 1138

Xinjia Meng, Zhijie Ding

Autonomous parking path planning and control for unmanned vehicles based on hybrid A* algorithm and MPC algorithm 1143

Cheng Zhu, Qin Luo, Kangyu Xie, Wenbin Cao

A Study on Bird Calls Recognition Method for Overhead Lines Integrating CNN Models 1148

Meifeng Pan, Runyu Xiao, Jiaqi Cui, Yangsheng Liu

Observer-based leader-following secure consensus for multi-agent systems with nonlinear dynamics and external disturbance under denial of service attacks 1153

Liduo Hu, Wei Zhang, Zhi Hu, Yuhang Cai

Remaining Useful Life Estimation for Molecular Pumps with Transformer-based Deep Learning Architecture 1158

Zhixin Cheng, Shoujun Bai

State of Charge Estimation for Lithium-Ion Batteries Based on IGA-EKPF 1166

Huiheng Hou, Haizhong Chen

Research on Fault Diagnosis Algorithm for Unmanned Surface Vehicle Based on Channel Pruning Lightweight Network 1172

Cheng He, Cong Jia, Ming Chen, Weizhang Shao, Peng Xu, Zonglei Mou

Community-diversified Influence Maximization based on Community-aware Closeness 1178

Sansi Qing, Hiyan Guo

Estimation on Implied Volatility Based on Artificial Intelligence and its Application in Engineering 1186

Jun Liu

Author Index