2023 5th International Conference on Frontiers Technology of Information and Computer (ICFTIC 2023)

Qiangdao, China
17-19 November 2023

Pages 1-636

IEEE Catalog Number: CFP23BB3-POD
ISBN: 979-8-3503-0910-2

Copyright © 2023 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number: CFP23BB3-POD
ISBN (Print-On-Demand): 979-8-3503-0910-2
ISBN (Online): 979-8-3503-0903-4

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

Application of DCSK in ACO-OFDM-IM technology of optical wireless communication 1
Yan Meng

Simulation of coupling of vehicle key Receiving antenna and GPS navigation antenna 5
Yuhong Han, Yaoyue Liu, Shiwei He

5G and PDR Deep Fusion Positioning Technology in Case of Sparse Stations Deployment 10
Yujie Liang, Tao Pang, Sijie Niu, Zirong Chen, Peng Cao, Fan Zhang

Application of Sample Convolution and Interaction Network to Time Series Prediction Based on Power Line Carrier Communication 15
Zhan Shi, Bo Li, Xiaozhi Deng, Zhihua Yang, Xin Qian

Security Design and Key Technologies of a Data Transmission Model 19
Xunbo Shuai, Wenbo Zhang, Mei Feng, Qing Li, Zhiguang Dong

Optimization and performance analysis of Wi-Fi indoor fingerprint localization algorithm 24
Xiajie Wang, Chen Zhu, Yue Tian, Xianling Wang, Yuxi Lin, Wenda Li

Performance Analysis of a Mixed FSO-RF Communication System with Energy Harvesting 30
Jun Zhang, Huazhang Liu

Design and Application of Power Communication Terminal Based on 5G 35
Minkai Zhang, Haixuan Fu, Xunwei Zhao, Jie Bai, Jinan Li, Guofeng Zhao

Data Compression Model based on Improved Compressive Sensing Algorithm 40
Lizhi Wang, Shizhe Tan, Runze Gong, Lu Tian, Zhike Cao, Xiangdong Xing

KubeMSEN: Extend KubeEdge to Support Metadata Sharing among Edge Nodes 45
Mo Li, Yi Ren, Yong Guo, Jianfeng Zhang, Bao Li

Data Security Framework and Privacy Protection Strategies in Cloud Computing Environment 51
Celi Zhao, Liang Zhao, Chuanjun Zhao, Xuzhuang Sun

Design and Analysis of Integrated Signals for Underwater Communication and Detection 55
Yang Wang, Tingting Lu, Youquan Zhang, Yuan Xu, Zhixuan Zhang

Deep Reinforcement Learning-Based Multi-Task Offloading Strategy in Mobile Edge Computing 59
Yaxi Yang, Chenwei Feng

EEG signal enhancement based on 2K-cGAN 63
Min Zhao, Shuai Zhang, Lei Sun, Xiuqing Mao, Yudie Hu

Optimized Algorithm for Communication Coverage in UAVs Using Virtual Force Principles 72
Bingchen Liu

A Memory Data Erasure Technique for Linux Shared Object 78
Gang Long, Hanlin Yang, Wei Wang, Zhaoxin Zhang, Xiaolong Li, Tengteng Zhao, Jian Wang, Wei Zhang, Tingting Wang, Tingyu Zhang

The influence of Airflow on Corona Discharge on Overhead Ground Wire of UHVDC Transmission Line During Lightning 82
Minchuan Liao, Lu Qu, Huaifei Chen, Gang Liu, Zhicheng Pang, Yunzhu An

Comparison of Clustering Methods on Iris Dataset 86
Mingrui Ye, Ziqian Zhou, Yijie Zhou, Yiran Huang

Grafting log analysis method of power data based on multi-layer clustering 93
Chang Yang, Jiangbo Yin, Zitian Liu, Fengping Luo, Jing Lin, Yi Shen, Shijie He

Data analysis of print quality defect detection based on FP-Growth algorithm 97
Xiaoping Ma, Shaozhong Cao, Yang Li

Design and implementation of EAST diagnostic data acquisition management system 101
Chuanchuan Chen, Ying Chen, Shi Li

Research on synchronization control of 5-dimensional hyperchaotic systems and its application in image encryption 107
Sujian Ouyang, Yuan Sun, Huiquan Zeng, Qinan Wang

A Two-Stage Intelligent Task Offloading Approach for Cloud-Edge Collaborative Computing Based on Particle Swarm Algorithm 113
Zhongtian Yang

An adversarial defense algorithm based on image feature hashing 119
Zilong Liu

Performance Optimization of Nearshore Ship Cellular Communication Systems Assisted by D2D 124
Fabin Fu, Feng Liu

Classification of stellar spectral data based on improved ConvNeXt-V2 129
Hao Fu, Peng Liu, Renhua Wang, Xue Mei

Whale Optimization Algorithm Based on Dynamic Inertia Weight Factor 133
Yuhao Jin, Shipin Yang

Handwritten Digit Recognition Method Based on DTW and SVM 137
Guibin Zhu, Bo Zhao, Jianbo Tang

Feature Selection Using Binary Particle Swarm Optimization Based on Conditional Independence 142
Jiaao Yu, Qunfeng Liu, Jiarui Zhang, Peixin Zheng

High-Accuracy UWB Positioning System for Mine Tunnels: Optimization of Positioning Algorithm for Quasi-One-Dimensional Environments 146
Qifan Wang, Jiaqi Shuai, Yan Guo, Junmin Wu

Research on indoor positioning algorithm based on Hybrid Sparrow Algorithm improved Back Propagation neural network 151
Xiaofeng Yan

Lattice Change Computation Model of Population Competition Relationship 156
Erhui Wang, Xinjian Liu

Numerical simulation of competition mechanism calculation under limited resource conditions 160
Erhui Wang, Xinjian Liu

DV-Hop Localization Algorithm Based on Coot Optimization Algorithm 164
Jiayue Xu, Xiuwu Yu, Shuai Ye, Xun Wang

GPC: A Generated Dataset for the Detection of Road Potholes and Cracks 168
Tengyue Wu, Lei Zhang, Xingzhou Song, Sirui Wang, Liantao Shi

Localization and Mapping Algorithm Based on Improved Point Cloud Intensity 173
Yaxin Liu, Xiangquan Liu, Lu Lu

Fast Incremental Data Recognition Method Based on TCN Network 179
Cong Hu, Cuiling Liu, Qi Sun, Jiangbo Yin, Senda Zhang, Bo Liu

A Distributed Photovoltaic Data Synchronous Collection and Recognition Method Based on Improved B-Spline Function 184
Qi Han, Yanbin Cai, Zhishuai Ren, Yan Wang, Dan Zhang, Wenxue Che, Hanlin Wang, Xinhui Cui

Fault Diagnosis of On-board Signaling Equipment Based on Bayesian Network 189
Lizi Zhang, Heng Wan, Weijie Ma

An Improved Sparrow Algorithm for Solving Route Optimization of Container Multimodal Transportation 194
Guangqiang Li, Yue Yu, Xinyue Chen, Hao Chen, Ruoxi Liu, Jialu Du

A Four-Stage Super Data Envelopment Analysis Model for Shipping Connectivity Efficiency 198
Yangxi Liu, Linchi Qu

Research on Line Spectrum Extraction and Positioning Technology of Single Vector Hydrophone 202
Xiangrui Zeng, Fuchen Liu, Guijuan Han

An Improved Fusion Algorithm for Solving Path Planning Problems 206
Mingan Wu

Research on Optimization of Lane Detection Algorithm under Complex Road Background 211
Tong Wang, Zhi Chen, Jiuzeng Wang, Haitao Shen

Efficient Approaches to Mitigate Communication Bottlenecks in MPI Communicator Splitting by Type 217
Qi Zhu, Yi Dai, Jintao Peng, Chongshan Liang, Bo Yang, Jie Liu

Hybrid LIDAR Point Cloud Compression Based on Projection Compensation 223
Tang Tang, Guanghui Xu, Mingzhe Liu, Xiaojian Qian

Mobile Positioning for Smart Vehicles Based on Signal Periodicity 230
Cheng Wang, Chaowei Yin

Robust subspace clustering via joint reweighted Frobenius norm and L_q norm minimization 235
Peng Wang, Renli Liang, Hongping Tian, Jiaqi Zhang

A Progressive Real-Time System Performance Defect Diagnosis Framework Based on Java Virtual Machine Run-time Data 241
Fan Meng, Bing Chen, Xiu Zhang, Shaohong Zhu

Gesture Recognition of Surface Electromyography Signal Based on Multi-source Domain Transfer Learning 245
Jingjing Yang, Fanyu Meng, Yan Wu, Anyuan Zhang

A Design of Sharing Algorithm Based on Attribute-Based Encryption in Cloud Storage Environment 249
Jun Fu, Desheng Zeng, Xiaodan Chen, Shuanglong Pang

Remote PV plant monitoring system based on NB-loT and LoRa 254
Pengyong Wei, Peng Zhou

Multi-task Learning for Non-intrusive Load Monitoring 259
Yifei Cao, Dongxu Chang, Huachen Liu, Jiaxiang Cui, Chu Ba

Application of high-order cumulant based on the transient sequence in modulation recognition 268
Sheng Wang, Jiaying Yue, Jianpeng Lu, Nae Zheng, Long Zhang, Yi Han

Algorithm for Object Extraction of Radar Images Based on OpenCV 274
Xiangdong Xing, Shizhe Tan, Wei Chen, Lu Tian, Runze Gong, Lizhi Wang

Water level detection based on ghost convolution and CA attention mechanism 278
Zhihu Wei, Han Gao, Gang Wang

Research on panoramic anomaly detection method for super-scale heterogeneous cloud resources 283
Junbing Pan, Anni Huang, Xiaoying Mo, Boling Chen, Chunzhi Meng

Resilient scheduling of massive heterogeneous cloud resources considering energy consumption uncertainty 287
Dengbin Liao, Boling Chen, Junbing Pan, Anni Huang, Xiaoying Mo
A Method for Identifying Domestic Waste Based on YOLOv5 293
Xiaodong Zhang, Deguo Yang, Jingyu Jia
Threat intelligence analysis based on multi-dimensional feature topic clustering and knowledge graph 297
Wenhui Wang, Xiao Han, Qi Zhao, Longxi Han, Guichen Wei, Dong Xu
An improved Ship Detection and Recognition algorithm based on YOLO v7 302
Runze Gong, Shizhe Tan, Xiangdong Xing, Zhike Cao, Lizhi Wang, Lu Tian
Scene Text Image Super-Resolution via Anchor Point Guided and Efficient Transformer 306
Wenfei Xiong, Xiaoqian Shi, Hang Yang, Huabing Zhou
Design of Factory Environmental Monitoring System based on ESP32 311
Wenze Song, Xuezhen Wang, Tianqi Wang, Zhixuan Li, Zening Zhang, Lishan Yang
Research on 3D Point Cloud Object Detection Method Based on PointNet Model 315
Jianyin Tang, Shuilong Zou, Jianping Ju, Xi Li, Deng Chen, Yan Xu
Recognition of Low-Altitude Targets Using Improved Canny Edge Detection 319
Yawei Song, Yuwen Luo, Chunhe Chang, Jianwei Liu, Min Shi, Jiyao Zhai
Research on optimization selection of radar high-resolution range target recognition features 325
Zhansheng Zhang, Yongjie Zhang, Zhen Lin, Chuanxiong Zhou, Danyang Liu
An improved YOLOX autonomous UAV-based system for monitoring photovoltaic panel failures 330
Yiting Xu, Yan Jiang, Lu Li, Yue Wang, Ran Li, Bolun Cai, Jiaxuan Wen
Research on integrated thermal management system of hybrid electric vehicle based on logical threshold method 351
Mengdi Xu, Xianbin Du, Enfan Guo, Zishun Chu, Bowen Liu
Driver Facial Emotion Monitoring Method Based on Deep Learning 356
Liyan Zhang, Xinyu Wang, Jiaxin Du
Human activity recognition based on millimeter-wave radar 360
Zhengjie Wang, Zhaolei Dong, Jianhang Li, Qingwei Zhang, Wenchao Wang, Yinjing Guo
Masking Modelling for Underwater Acoustic Target Recognition with Self-supervised Learning 364
Sheng Feng, Xiaoqian Zhu, Shuqing Ma, Qiang Lan
CT system parameter calibration and imaging based on the inverse Radon transform and filter denoising 370
Yuan Ma, Xue Han
Research on Knowledge Enhancement Recommendation Methods 378
Feng Wang, Xuebing Wu, Yuxia Lei
A Joint Encoding Model for Image-Text Matching Based on CLIP 383
Ailin Du, Honghua Xu, Dan Liu
Multi-domain Landslide and Sandstorm Target Detection 387
Shuhang Lv, Dabo Guo, Lubo Wang
A Fast Approach for Generating Unidentifiable Adversarial Samples 395
Yunfei Jia, Risheng Guo
Improved Lightweight Apple Object Detection Method Based on YOLOv5s 399
Yunfei Jia, Chang Liu

Financial Text Sentiment Classification Based on Baichuan2 Instruction Finetuning Model 403
Yuqi Cao, Liziqiu Yang, Chen Wei, Han Wang
Key Quality Characteristic Identification Based on GSCV-RF-RFE 407
Chen Gong, Xiaofang Wu, Zhikang Zhang, Wanyue Xu
Knowledge Fusion Algorithm Based on Entity Relation Mining and Graph Neural Network 413
Chengliang Li, Shiwei Wu, Tong Chen, Ruishuang Wang, Jian Cao
Micro-expression Recognition Method Based on Dual Path Network and STSTNet Feature Fusion 418
Wenzhe Wu, Junfang Song, Feiyang Feng
Enhancing Cloud-Native System Robustness: Time-Series GAN-Powered Fault Injection Model 423
Quanjun Xia, Kaiyu Dai
Face Expression Recognition Based on Dynamic Sparse Attention and Residual Network 427
Yating Wang, Runfeng Lin, Jianbin Chen, Shouqiang Liu
Design and Implementation of a Multi-layered Employee Profile System for Power Enterprises Based on LSTM and Mini-batch K-means 432
Ziheng Wang, Xiaozhen Li, Yu Meng, Qian Zhang
Parameter-Effective Contrastive Learning and Isotropy of Different Layers For Better Sentence Embeddings 440
Tianyang Liu, Wenhua Xu, Kaihui Guo
Vehicle Intelligent Control System Based on Voiceprint Recognition 447
Huijing Wang, Hongfei Hu, Yimei Xu, Xin Liu
OCR Character Recognition Based on Improved Vertical Projection Segmentation Method 451
Youqi Wu, Jinwang Yi
The Use of Beidou System in Human Social Life --Taking Deformation Monitoring for Example 457
Ping He, Xueting Li, Shihui Wang
MFDF-YOLOv7: YOLOv7-Based Multiscale Feature Dynamic Fusion Small Object Detection Algorithm 463
Shu Cao, Jingfeng Xiao, Xinxin Meng, Wenzhong Yang
FPGA-Oriented Target Detection Accelerator Design 472
Weizhe Huang
A Named Entity Recognition Model Based on BERT Model and Lexical Fusion in the Financial Regulation Field 477
Xiaoguo Wang, Xiangbo Pan, Chao Chen, Jianwen Cui
Research on Synchronous Recognition Method of Multiple Tobacco Leaf Grades Based on MDCNet 483
Tu Hu, Kaihu Hou, Yongzhou Su, Jianping Luo
A Study of Lightweight Classroom Abnormal Behavior Recognition by Incorporating ODConv 491
Pan Xue, Ting Chen, Xiaolin Zhao, Jinke Zhu, Benqi Liao, Xiaomin Wang
Design of flexible Compression Transmission Framework for Distributed Storage System Based on Erasure Coding 501
Ang Li, Xiandong Yuan
Research on Agricultural Pest Target Detection Method based on YOLOv7 505
Runsheng Wang, Keqi Xiang, Bing Shao
Design of CNC machine tool condition monitoring system 510
Cunfu Yan, Yiming Wang, Xuetao Qiao, Tianhang Duan

Research on Emotion Recognition Based on Parameter Transfer and Res2Net 515
Yan Wu, Wei Liu, Qi Li
Human Activity Recognition Based on Extraction of Multi-feature Using Inertial Sensors 519
Guoqiang Chen, Yong Li
Underwater Image Stitching Algorithm Based on RANSAC+SIFT 525
Kangyou Su
Underwater Acoustic Target Recognition based on Graph Wavelet Bispectrum 529
Xin Chen, Jie Shao, Xingxing Wang
Bus Priority Hardware-in-the-loop Simulation System Based on SUMO 534
Xiaoqiang Zeng, Juyuan Wu, Sen Wang, Xucai Zhang, Hailong Ding
Arduino multimode integrated hardware development experiment platform design 538
Yuling Liang, Huaiyi Li, Xiang Pan
Trajectory Type Analysis Based on Quadrangular Pyramid Curve 543
Qiqi Xia, Chun Luo, Zhengyi Hou
Two-layer model of coordinated attack of physical-information system considering reactive power regulation 548
Menghan Liu, Yonghui Liu
Multi-center solitary solid pulmonary nodule classification algorithm based on mutual information of graph federation 554
Jiangfeng Shi, Bao Feng, Yu Liu, Xiangmeng Chen
Prediction of endometrial cancer MRI images based on deep learning and improved Bayesian extreme learning machine ensemble learning 560
Ximiao Wang, Qinghui Hu, Xisheng Dai, Peijun Li, Yuan Chen
Aspect-based Sentiment Analysis Model Based on Multi-hop Information 566
Zhengwu Yuan, Shuiying Xu, Aixia Yang, Fapeng Xu
Full Link Pressure Testing System for Car-Hailing Software System 570
Wei Du, Shupeng Jiao, Wenqi Zhang, Tiesuo Fang
Prediction and Analysis of Non-linear Data based on BP Neural Network 578
Jiayao Guo, Lianwei Wu, Linyong Wang
U2N Relay Discovery Method Based on Multidimensional Parameter Comprehensive Evaluation 583
Jie Liu, Yuhan Zhang, Yilin Lin, Yu Lin, Qin Zeng, Sibo Chen
An optimal design for sensor radiation performance test system 590
Demin Chen, Xi Zhang
Wearless and Non-Invasive Gait Speed Observation System Based on Channel State Information of Wi-Fi 594
Wei Han, Shenggang Wu
Brain-Computer Interface: Emotion design and management by Brain Wave Music 600
Jiayu Shao, Puhong Qin, Hong Pan, Shuai Luo
Spectral Clustering Algorithm based on Natural Nearest Neighbor and Density Stratification 606
Yujun Pan, Ansheng Deng, Guanli Yue
Design and implementation of host security situation assessment system based on improved multiple linear regression model 611
Zengyu Cai, Hongying Zhao, Yuke Zhang, Jianwei Zhang, Yuan Feng, Pengrong Li

Conceptual lattice-based natural noise correction mechanism in knowledge recommendation 615
Xuebing Wu, Feng Wang, Yuxia Lei
Handwritten Chinese Character Regularity Assessment Method Based on Improved Googlenet 620
Zhennan Kang, Yong Yang, Fuheng Qu, Jinzhuang Li
Improved BP neural network based on Dung Beetle Optimization algorithm for battery SOH prediction 624
Faxing Zhao, Ziliang An, Yannan Sun, Xinxin Li
Research on network public opinion prediction based on PSO-BP neural network 628
Mingxing Li
Substation multi-target detection method based on improved YOLOX-s 633
Yexin Cheng, Zuoxiao Dai, Xiaohui Wang
An Approach to Improve the Generalization of DNN Using StyleGAN 637
Yunfei Jia, Xiaoqi Zeng
Object-Enhanced Semantic Segmentation Model for High-Resolution Remote Sensing Images 641
Zhengwu Yuan, Yang Deng, Aixia Yang, Fan Zhang
A Sparse Optical Flow Method for Camera Tracking under Fisheye Camera Models 645
Zuoming Zhang, Xin Wang
Research on Information Tracing Method of Wind Turbine Full Life Cycle Based on Trusted Identification 651
Leifeng Xiao, Cheng Lu, Wenlei Sun, Saike Chang
Improved ORB Image Matching Algorithm Based on Local Information Entropy 658
Changyu Wang, Weidong Jiao, Siyuan Zhang, Yanan Song
A Driving Area Detection Algorithm Based on Swin Transformer 664
Shuang Liu, Ying Li
A Research on Rainfall Prediction Based on PLS-ARMIA Algorithm Modelase 668
Sicong Huo, Tao Lu, Dan Wei, Pengying Deng
Design and Implementation of Man-Machine Playing Device for Gobang Game 673
Ruiqiang Xue, Qingsong Yuan, Jiande Su
Design of IRIG_B code Decoder for nuclear Power Plant Time Unification System 679
Jiating Peng, Tiejun Zeng, Xinlin Wang
A Multi-scale Features Fusion Method for Concrete Crack Segmentation 683
Xuemei Huang, Jianxi Yang, Tingping Zhang, Ren Li, Di Wang, Shixin Jiang
An Integrated Model for Time Series Price Prediction Based on MODWT and BP Neural Network 688
Jin Wang
Matching Parameter Design for Second-Order Stochastic Resonance 695
Yun Wang, Jianchun Li
Predicting Motion Trajectory of Bedload Pebble based on LSTM_Attention_Kalman Model 699
Binghua Nie, Bin Ma
A Real-time Semantic Segmentation based on Self-attention and Contextual Information 704
Xiaoxuan Cao, Ansheng Deng, Zheng Zhang
Graph-PS: Sequence-Based Prediction of Phase-Separated Protein Classification by Graph Convolutional Network 709
Siyang Liu

Design and simulation of miniaturized filters in the 5G frequency band 713
Bing Luo, Hui Meng, Jianbao Zhang, Qianqian Li

Processing of Explicit Emotion Sentences and Implicit Emotion Sentences: A Comparative Study Using Behavioral Measures 717
Kai Zhang, Chunfang Min, Shuzhen Ma, Li Zhang

Image Defogging Algorithm Based on Dual-Stream Skip Connections 722
Jiaxin Li, Deguo Yang, Guang Yang

Ship Track Prediction based PSO-LSTM 726
Hao Long, Guan Wang, Xinye Zhao, Dianwen Liu

Lead Recovery Guide Residual Network for Myocardial Infarction Detection by Restoring 12-Lead Spatial Information 730
Lianghong Wang, Yuyi Zou, Tao Yang, Chaoxin Xie

A Tensor Dataflow Modeling Framework with Fine-grained Hardware Description 734
Yuxing He, Xianglan Chen

Research on Monthly Runoff Prediction based on VMD-BP model 740
Lulu Li

Text-Driven 3D Outdoor Scene Decomposing with Neural Fields 745
Qinqin Rao, Bin Zhang

DPSA: A Framework for Dataflow Aware Precision Scalable DNN Accelerator Design 749
Hanyuan Gao, Zheyuan Zou, Wenbin Teng, Teng Wang

Priority-based Joint Perceptual Task Allocation Method in IoMT 754
Renjie Song, Jun Ni, Yibing Zhan, Dapeng Tao

Research on Depth Information Acquisition of Array Camera Based on Depth Map Fusion 759
Zhaomin Xie, Mengxiao Zhao, Yujia He

Modeling and Simulation of Equipment Support Task Flow Based on Improved Petri Nets 763
Zhenyang Wang, Wenfeng Wang, Xiaoyang Han, Bo Zhang, Xianliang Meng, Le Meng

Prediction of Ship Trajectories in confined waters Based on N-gram Model 770
Xukai Xi

A Novel Method for Predicting Blood Glucose Levels in the Elderly Based on Ensemble Optimization Algorithms 776
Dingya Chen, Mengshuai Su, Hui Liu, Yanfei Li

Track Segment Association Based on LSTM Networks 780
Chun Wang, Yuhao Yang, Qiang Zhang

Federated Learning based on Feature Transfer: Multi-center Nuclear Segmentation of Histological Images 785
Senliang Lu, Bao Feng, Yehang Chen, Zijun Huang

C-LLDP-monitoring: Latency Monitoring across Large-scale Software Defined Networks 792
Xinren Lu, Changqing Zhao, Lingxia Liao

Directed Acyclic Graph Based Online Multi-Dimensional Trajectory Simplification Algorithm 800
Shizhe Tan, Zhike Cao, Lizhi Wang, Runze Gong, Lu Tian

Research on Continuous Time Markov Industrial Internet Security Measurement 805
Mingjie Li, Vladimir Y. Mariano

A multi-view 3D reconstruction method that integrates patchmatch and efficient channel attention cascades 811
Zehui Ren, Deli Zhu, Xiaohong Quan
A Secure and Efficient Cross-Chain Model Based on Credentials 815
Min Li, Ao Sun, Xinyu Ye, Junzhi Yan, Li Su, Shen He
Wsn coverage optimization based on convergence factor dung beetle algorithm 820
Tong Ma, Hongwei Ma
6G Polymorphic Smart Network Architecture and Key Technologies 825
Xingxing Liao, Wei You, Jingwen Lv, Min Wang, Ying Zhao, Gang He
mRS-DBFT: An improved consensus mechanism suitable for end-edge-cloud hybrid trust models 832
Xue Zhai, Shanchen Pang, Sibo Qiao, Shihang Yu
MSSCE-GAN: Multi-Scale Structural and Color Enhanced Generative Adversarial Network for Unpaired Underwater Image Enhancement 837
Lingxin Zhang, Youkun Chen, Jie lan, Yuzhen Niu
Design and application of automatic switching of management side services in disaster recovery scenarios of a dual active cloud platform 842
Ping Yin, Wei Song, Jianbiao Jiang, Taotao Xie, Xingyan Sun, Zhenhua Wang
Research on Interleaved Hamming Code Verification of FPGA and Reliability Analysis 848
Dongliang Zhang, Kunpeng Wu, Jie Wu, Hanming Tao
A Bidirectional LSTM Log Detection Model Based on Attention Mechanism 854
Ruyu Li, Yuhan Fu, Chao Li, Xi Luo
Research on Coriolis mass flowmeter filtering algorithm based on MALLAT algorithm 861
Nan Chen
Detection of Money Laundering Address over the Ethereum Blockchain 866
Wei Lv, Jiayi Liu, Lu Zhou
Node Importance Assessment Method Based on Double Deep Q-Network 870
Ying Zhang, Xuhang Hou
Improved DN-DETR for Safety helmet wearing Detection 874
Yuxuan Yan, Kaijie Niu
A Malware Security Detection and Classification Model Based on Bayes Residual Neural Network 878
Menglu Wang, Yinghao Ma
Enhancing Structural Cracks Segmentation Through Generative Image Synthesis 883
Yunping Liao, Tao Zhang, Yong Yang, Boyi Li, Hui Li, Qi Yan
Trunk-Branch Tree: A New Tree Structure, can be Divided into Trunk and Branches 887
Zhibo Guo, Wei Jiang, Yanhai Song, Chenglin Sun, Xiaoli Qiao
Research on Cotton Supply Chain Quality Tracing Scheme Based on Blockchain Smart Contracts 894
Lixin Wang, Cheng Lu, Wenlei Sun, Saike Chang
Improvement and Realization of CAM-based Ethernet Circuits 902
Jinxu Wang, Lufeng Qiao, Mingyang Lu, Rongjian Li
IPSO-CNN: Malicious Code Classification with Improved PSO Optimized CNN
Junling Wang, Zhong Lei, Xinxin Chang, Dongming Huang 906

Research on the Application of Four Dimensional MDI-QKD Protocol Based on Phase Polarization Coding in Quantum Communication Systems 911
Yanyan Chen
5G VoNR Traffic Real-time Prediction Method based on LSTM 915
Fangkai Lu, Fangzheng Yuan, Yongqiang Li, Xiaofeng Song, Cheng Liu, Feiyi Liu
A multi-level edge detection network for feature extraction of Tancheng Thangka 920
Yimeng Xiao, Xiaobo Yang, JianBang Li
API Behavior Anomaly Detection Method Based on Deep Learning and Adaptive Clustering 926
Xinyu Liu, Jing Zhang, Beibei Su, Zhijie Shang, Jinmeng Zhao, Zixian Dong
Additive Attention for Medical Visual Question Answering 932
Ya Liu, Nan Yang, Shuanglong Yao, Xing Wang
Self-Supervised Learning based 3D Visual Question answering for Scene Understanding 936
Xiang Li, Zhiguang Fan, Xuexiang Li, Nan Lin
Multi-Task Computation Offloading based on Vehicular Blockchain 943
Zhen Meng, Chuyi Liu, Guanyu Ren, Jianxiong Wan, Leixiao Li
Hybrid CNN-Transformer and Multi-Region Selective Features for No-Reference Screen Content Image Quality Assessment 947
Youkun Chen, Lingxin Zhang, Yuzhen Niu
A Study on the Applicability of Cube Attacks to Stream Ciphers 952
Jiaxiang Zhang, Bo Gao, Jianxiong Wan, Leixiao Li, Jintao Li
Deformable Image Registration via Dual-channel Cross Constraint Network for Brain MR Image 956
Han Zhou, Hongtao Xu, Xinyue Chang, Wei Zhang, Qiufeng Chen, Lifang Wei
CM-Net: Pulmonary Nodule Detection Network with Convolution and MLP 960
Chi Zhang, Ji Chen, Xing Wang, Fangru Hu
Chinese Food Safety Entity Recognition Based on BERT Model 964
Shiyong Xiong, Guozhi Bai
Investigating Changes in Delta Power Spectral Density of EEG in Participants Performing Different Tasks 968
Dongliang Zhang, Jie Wu, Kunpeng Wu, Hanming Tao
Exploring Reaction Centers in Retrosynthesis through Node Classification using Graph Neural Networks 974
Zhe Wang
Research on Blockchain Multi-chain Anti counterfeiting Traceability Method Based on Improved AFSA Algorithm 978
Shengnan Zhang, Xingjun Wang, Wenxing Jin
A Neural Network Model for Identifying Abnormal Online Learning States 983
Yantai Gao, Jianqiang Wang, Jun Jia
Research on Neural Network Model and Algorithm for Short-term Load Prediction 988
Qiuqi Han
Distributed Training Decentralized Execution Framework of Multi-agent Learning for Cooperative Edge Caching 993
Wenyuan Tang, Minghan Gao, Qiang Gao, Xiaohong Peng

Method for Classification and Origin Identification of Chinese Medicinal Herbs Based on Spectral Features 999
Yilin Li
Combining Syntactic Information Enhancement and Graph Convolutional Network for Aspect-level Sentiment Analysis 1004
Biqing Zeng, Ruiqing Du
BdrtEE: A Bert-based Decoder Refinement Tagging Method for Overlapping Event Extraction 1009
Zhangqiao Wen, Jinyan Li, Hao Dong, Shuanglong Yao, Xing Wang, Ji Chen
Hierarchical Mixup: Improving Representations By Binary Masks And Interpolating Hidden States 1014
Kai Wang, Jiangtao Guo, Shu Cao, Wenzhong Yang
Semi-supervised Projected Subspace Clustering 1021
Qianli Zhao, Xianchao Zhang, Xinyue Liu, Linlin Zong
Identifying Biomarker of Alzheimer's Disease Based on an Extensible Ensemble Learning Model 1025
Ruiwen Huang
Line Drawing Method for Low-Resolution Dot Matrix Displays Based on a Uniform Pixel Distribution Strategy 1039
Tianyang Li, Yumin Liu, Hongyue Ma, Peiyao Zhang
Multistream Dilated Convolutional Feature Fusion Neural Network for SSVEP Classification 1044
Xiujun Li, Yongzheng Zhang, Yan Wu, Qi Li
A Pointer Meter Reading Method Based on Image Enhancement and Deep Learning 1048
Chengxiao Wang, Yu Tan, Shuo Wang
Research on the Restoration of Abnormal Flights Based on Improved Greedy Randomized Adaptive Search Procedures Algorithm 1055
Jun Bi, Yuhang Cheng, Fujun Wang, Hui Yang
Self-calibrated stacked hourglass for human pose estimation 1059
Tiannan Tang, Guangxing Tan, Tong Yi
Detection of Building Façade Damage Based on Improved YOLOv8 1065
Qi Huang, Fang Wan, Guangbo Lei, Li Xu
GCS-YOLO: A lightweight strawberry disease detection algorithm based on improved YOLOv8 1071
Haiwen Cheng, Fang Wan, Guangbo Lei, Li Xu
Research on obstacle crossing of Biped Robot 1077
Xunhua Cai, Chishiuan Lee, Haiwu Lee
Research on the application of network virtualization technology 1083
Yuxue Qiu, Kai Li, Yu Zhang, Dawei Lin, Dongqi Chu, Yi Yuan, Zhijie Cao
Prediction of Ship Maintenance Cost by Support Vector Machines Based on Bayesian Optimization 1087
Wenjun Ye, Guoping Jiang
Research on Obstacle Avoidance Algorithm of UAVs Reinforcement Learning based on Vision 1093
Yuan Gao, Tianwei Shi, Teng Xu, Jianbang Ding, Rongchen Jing
Remote Sensing Ship Detection based on Feature Fusion 1099
Zheng Zhang, Ansheng Deng, Xiaoxuan Cao
Research on decision control of unmanned driving based on SAC 1104
Rui Guo, Tianshu Yue

Human Pose Estimation Using Commodity WiFi and Deep Learning Approach 1108
Zhengjie Wang, Wenchao Wang, Jianhang Li, Qingwei Zhang, Zhaolei Dong, Yinjing Guo
A Road Damage Detection Method Based on Improved YOLOV8s 1112
Li Zhang, Fang Wan, Guangbo Lei, Li Xu
Affective Human-Machine Adaptation Method for Spinal Fixation Support Products 1117
Shuo Zhang, Jiangnan Li, Manpo Li, Li Sun, Jiantao Wu
Fault Diagnosis of Underwater Robot Propulsion Based on ResNet18 Network 1121
Shijie Dai, Yifan Xue, Zhongben Zhu, Hongde Qin
Double attention aircraft engine remaining life prediction based on CNN-GRU 1126
Xinjie Xu, Zhiling Xu
Autism Disease Prediction with Self-Supervised Graph Contrastive Learning 1131
Wenxin Li, Yanan Jia, Bowen Yan, Mengwei Yan
Maintenance Personnel Scheduling in Printed Circuit Board Manufacturing Workshops Based on Improved Firefly Algorithm 1135
Zhiliang Xie, Chunrong Pan, Wenqing Xiong, Lifa He
A Simulation Study on Fish Schooling Behavior 1140
Jiaxin Li, Xiaofeng Sun
Research on Photogrammetric Solution for Internal Weapons Separation Flight Testing 1145
Xiaodong Ma, Yuwen Fu, Yanshi Shun
Research on Vehicle Routing Problem Based on Heuristic Neural Network 1154
Li Wang, Huiying Weng, Xiaojiang Sun, Wencan Yan
A Dense Sample Surface Defect Detection Algorithm Based on Deep Learning and Thread Pool 1159
Ting Li, Yuman Nie, Yaoxiong Wang, Ming Ye, Pingguo Cao, Zhannan Xu, Zhou Wang
Research on a Sparse Blind Source Separation Method for Anti Main Lobe Active Interference 1164
Zhen Lu, Zhongma Cui, Wendong Chen
Multi-information Self-attention Autoencoder Sequential recommendation 1169
Nan Wang, Yang Liu
Research on Arrhythmia Classification and Detection Based on Multiple Machine Learning Algorithms 1174
Zekai Yu
An Attack and Defense Game Model with Constrained Strategies Based on Difficulty Levels 1178
Jiaqi Ren, Jin Liu, Yibo Dong, Zhe Li, Weili Li
Power Plant Liquid Leakage Detection Based on Key-frame Quality Enhancement 1186
Xiao Wang, Weiye Yang, Yemin Lin, Zheng Zhao, Lishu Luo, Chen Dai
Motion Vehicle Tracking Based on Multi-Branch Depth Fusion 1195
Yiren Wei, Feiran Fu, Yuchao Fang, Ming Fang
Detection of Tile Surface Based on SSM-R-CNN Algorithm 1200
Jiahua Wang, Lin Li, Siman Kong, Chenyang Zhou, Jianzhi Sun
Research on Machine Vision-based Damage Detection Method for Underwater Net box and Net Coat 1205
Xi Zhong, Wuwei Feng
Lightweight pedestrian detection algorithm based on GGSnet 1210
Yanze Zhang, Yongzhong Zhang

Lightweight Face Detection Method Based on YOLOv7 1216
Shuqin Wang, Tao He, Chao Xu, Shihang Luo, Jixiang Su, Lifeng Zhang, Huipeng Li, Hu Liang
Study on an Optimization Algorithm for Unmanned Aerial Vehicle Surveying and Mapping Paths along the Coast 1220
Fu Luo, Yan Wang
Research on Intelligent Warehousing Based on AGV Handling Robot 1224
Jianbao Zhang, Bing Luo, Hui Meng, Qianqian Li
Sentiment Analysis and Research Based on ERINE-BILSTM-ATT 1228
Shiyong Xiong, Yuqiu Li
CLIP-Driven Distinctive Interactive Transformer for Image Difference Captioning 1232
Jinhong Hu, Benqi Zhang, Ying Chen
Obstacle Detection and Modeling Based on Lidar Scan Lines 1237
Fei Yuan, Weigao Qiao, Jianzhong Zhang, Shuangwen Liu
Robotic Grasping Point Recognition Model based on Reinforcement Learning 1241
Shike Yang, Ziming He, Kaoshing Hwang, Haobin Shi
Dynamic Reliability Scheme for SRv6-Based SFC Orchestration 1245
Qing Miao
Auto Tuning Quantized Graph Neural Networks on GPU Tensor Core via TVM 1249
Zhiyuan Wang
MVHRL: Multi-view Hierarchical Representation Learning for Subtype Classification of Non-small Cell Lung Cancer 1254
Wei Liu, Yin Luo, Wei Wang, Kai Rui, Minghui Wang, Ao Li
Aerospace Aircraft Inspection Based on Improved YoloV8 1259
Yonglu Chen, Rui Zhang, Beibei Zhang
Towards an Attention Maps Guided Adversarial Attack Approach for Object Detection 1264
Zhicheng Ma, Jinxiong Zhao, Hong Zhao, Bangguo Yin, Jun Yu, Jiangyi Geng
Research on early Intelligent Diagnosis Method of Alzheimer 's Disease based on Residual Coordination CMT-Multiscale CNN 1269
Jingjing Yang, Meiyan Liu, Qi Li, Jingyuan Liu
Research on SLAM Localization Technology for Mobile Robots Based on LIDAR and Vision Fusion 1273
Chunjie Li, Jun Liu, Jia Li, Ye Wang
Author Index