

2022 19th International Computer Conference on Wavelet Active Media Technology and Information Processing (ICCWAMTIP 2022)

**Chengdu, China
16-18 December 2022**



**IEEE Catalog Number: CFP22WAM-POD
ISBN: 978-1-6654-9390-1**

**Copyright © 2022 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:	CFP22WAM-POD
ISBN (Print-On-Demand):	978-1-6654-9390-1
ISBN (Online):	978-1-6654-9389-5
ISSN:	2576-8972

Additional Copies of This Publication Are Available From:

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

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

A Novel and Efficient Sequential Learning-Based Malware Classification Model.....	1
<i>Zine El Abidine Bensalem, Ilyas Benkhaddra, Mohamed Ali Setitra, Mingyu Fan</i>	
Feature Modeling and Dimensionality Reduction to Improve ML-Based DDOS Detection Systems in SDN Environment	9
<i>Mohamed Ali Setitra, Ilyas Benkhaddra, Zine El Abidine Bensalem, Mingyu Fan</i>	
Source-Free Unsupervised Domain Adaptation Via Denoising Mutual Learning	16
<i>Zhang Hao, Tian Liang</i>	
SWOT Analysis and Strategies of High-Quality Career Guidance Education in Universities in the Context of Big Data.....	23
<i>Ye Dan, Li Mingjin</i>	
Research on the "Deep Integration" of Information Technology and Precise Civic Education in Universities.....	27
<i>Li Mingjin, Ye Dan</i>	
SSD-Based LSM-Tree Key-Value Storage System	31
<i>Yang Zining, Jian Gang, Hu Yu, Zhang Siying, Yang Yuanzhi</i>	
An Intelligent and Transparent Inference: Spiking Neural Network for Causal Reasoning	41
<i>Li Runyu, Luo Xiaoling, Wang Jun</i>	
Relation Heterogeneous Graph Neural Network	46
<i>Yu Jielin, Wei Zukuan</i>	
Sparse Sampled Logistic Chaos-Based Frequency Modulated Signals for Mimo Radar	51
<i>Yang Jin, Zhang Xin, Tan Zhiguo, Teng Shuhua</i>	
A Polarization-Independent Transmissive Metaleins in the Microwave Band	57
<i>Wang Ling, Yang Xishu, Gao Feng, Teng Shuhua, Tan Zhiguo, Zhang Xing, Lou Jun</i>	
Multi-Agent Reinforcement Learning with Contribution-Based Assignment Online Routing in SDN	61
<i>Yue Xiaofeng, Wu Lijun, Duan Weiwei</i>	
I ² CU: A Dedicated Im2Col Hardware Unit	66
<i>Tao Zhongyu, Wang Yuanfeng, Zhang Huaisheng</i>	
Lattice-Based Anonymous Signcryption for Smart Grid.....	70
<i>Cao Chenchen, Xu Chunxiang, Jiang Changsong, Han Yunxia</i>	
Precise Positioning Method of UWB in Signal Jamming.....	76
<i>Li Jun, Zhang Ruizhi, Shen Xiaofeng</i>	
Domain Adaptation Method for Document Object Detection	80
<i>Xiang Junlin</i>	
Spatio-Temporal Graph-TCN Neural Network for Traffic Flow Prediction.....	84
<i>Hongjin Ren, Jinbiao Kang, Ke Zhang</i>	
Research on AFT of Unstructured Surface Mesh Based on ANN	88
<i>Wu Haotian</i>	

Study on the Effect of SR^{2+} - Ti^{4+} Co-Doped YIG Ferrite Microwave Magnetic Properties and Dielectric Property Modulation on Microwave Ferrite Circulator Performance	93
<i>Yin Qisheng, Liu Yingli, Wu Jian, Li Jie, Chen Jianfeng, Lu Shifan</i>	
Object Cluster Position Using Reinforcement Learning	98
<i>Liu Qingwen, Fan Yu, Yuan Ye</i>	
Enhancing the Adversarial Transferability of Vision Transformers Through Perturbation Invariance.....	102
<i>Zeng Boheng</i>	
Invariance of K-Frames in Hilbert Spaces.....	106
<i>Li Xujin, Leng Jinsong</i>	
Target Identification Technology of Millimeter-Wave Radar Based on Feature Template.....	110
<i>Zhai Qinglin, Ouyang Guohua, Hu Jianli</i>	
Research on Defect Detection Method of Drainage Pipe Network Based on Deep Learning.....	115
<i>Zhao Zekuan, He Chunlin</i>	
Optimizing Drug Screening with Machine Learning	121
<i>Chen Lin, Zhou Xiaoxiao</i>	
Automatic Molecule Generation Using Manifold Guidance GAN and Genetic Algorithm.....	125
<i>Yiheng Huang, Lei Huang, Hongguang Fu</i>	
Joint Positioning of Two Nodes Via Direction Finding of Signals of Opportunity and Cooperative Range Measurement	134
<i>Junlin Li, Rui Chen, Xiangyu Peng, Wenrong Chen, Xinyu Hu, Qun Wan</i>	
Research on Intelligent Human-Computer Interaction Technology of Tobacco System.....	139
<i>Liu Kai, Yang Yutao, Zhao Min, Zhang Liang, Yang Yaojing, Yan Dazhu, He Weiyang, Tian Wenong</i>	
General Point Cloud Feature Extraction and Matching Algorithm.....	145
<i>Gao Jingxi, Gao Feng, Teng Shuhua, Zhang Xing, Tan Zhiguo, Wang Ling</i>	
Deep Weighted Graph Embedding for Link Weight Prediction.....	151
<i>Zuo Wenbo, Liu Zhen</i>	
Android Malware Detection Based on Heterogeneous Information Network with Cross-Layer Features	155
<i>Ren Xixuan, Zhao Lirui, Wang Kai, Xue Zhixing, Hou Anran, Shao Qiao</i>	
Road Flat Condition Detection Algorithm Based on Group Intelligence Perception	159
<i>Chen Yang, Xing Jianchuan, Zhou Chunwen</i>	
Heart Sound Classification Using Residual Neural Network and Convolution Block Attention Module	164
<i>Enoch Adjei Frimpong, Qin Zhiguang, Tenagyei Edwin Kwadwo, Patamia Agbeshi Rutherford, Edward Y. Baagyere, Regina Esi Turkson</i>	
A Hybrid Model of Kalman-ARIMA-LSTM for Flow Prediction of Mine Air Compressors.....	171
<i>Lin Yuzhou, Wu Xiaofei, Lin Mao, Lu Chao, Wan Hu, Chen Yongqiang, Sun Jingbo</i>	
Study on Modular Simulation of Fluid-Structure Interaction in Fluid-Conveying Pipelines Based on Simulink	178
<i>Chen Ming, Yan Gang, Liang Zeshan, Peng Xiaoqing</i>	

An AOA-Based IMU Error Suppression Method.....	184
<i>Jiao Yang, Sun Luyao, Hu Xinyu, Xing Tian Yi, Li Jun Lin, Li Ya Bin, Wan Qun</i>	
Detection and Tracking Method of Small-Sized UAV Based on YOLOv5	188
<i>You Jiang, Gu Jingliang, Zhou Yanqing, Wan Min, Wang Jianwei</i>	
A Multi-Task Learning Method Combined with GAN for Aerodynamic Prediction	193
<i>Zhang Guangbo, Hu Liwei, Zhang Jun, Xiang Yu</i>	
Robust Graph Embedding Via Self-Supervised Graph Denoising	198
<i>Wang Han</i>	
Deep Learning Based Sensitive Data Detection.....	202
<i>Peng Chong</i>	
Neural Network Reasoning Algorithm of Large-Scale Graph Based on Parallel Computing	208
<i>Zeng Keqin</i>	
RepMDN: Re-Parameterization Multi-View Deformation Network for 3D Reconstruction	212
<i>Li Bo, Zhang Shibin, Wan Guogen, Zhou Daohua, Huang Yuanyuan, Li Chaorong, He Peilin</i>	
Transformer with Layer Fusion and Interaction	217
<i>Yan Mingming, You Shuai, Sun Jianing, Gao Xiang, Lu Biao, Huang Wenxian</i>	
Gesture Recognition Algorithm Based on WiFi and MMWR Fusion	222
<i>Zhao Yongkun, Chen Bing, Kang Jiancheng, Zhuang Jie</i>	
Privacy Preservation for Distance Based Data Mining in Distributed Data	227
<i>Rudo R Mtengwa, Cobbinah Bernard Mawuli, Delanyo Kulevome, Mamo Tadiyos Hailemichael, Fortune Agleby</i>	
Real-Time Oriented Ship Detection in Aerial Images for Embedded Platforms	234
<i>Weng Xiaoran</i>	
SAR Target Orientation Estimation Based on Manifold Learning	239
<i>Lou Jun, Wang Ling, Wang Pengyu</i>	
Topic Modeling Based on Attributed Graph.....	243
<i>Zhang Lidan</i>	
Towards Automatic 2D Materials Detection Using YOLOv7	247
<i>Yutra Abel Zenebe, Li Xiaoyu, Wang Chao, Wen Yi, Hassen Ahmed Endris, Mola Natnael Fanose</i>	
Study on Speed Control of PMSM Based on Wavelet Neural Network.....	252
<i>Mao Weiwei, Jin Xiaoyu, Sun Haijian, Zhang Zhiguo, Zhang Jiahao</i>	
Magnetic Anomaly Detection Based on Magnetic Gradient Orthonormal Basis Function and Wavelet Packet	257
<i>Zhou Jiaqi, Peng Genzhai, Wang Chengdong, Yan Huan, Zhang Zhihong, Chen Yong</i>	
Design of 2-12 GHz Ultra-Wideband Band Pass Filter Using GAAS Integrated Passive Device Technology	266
<i>Takele Yonas Mirete, Gebre Fisehatsion Mesfin, Meresa Girma Nigus, Tegegne Solomon Eshetie, Mengesha Yared Getachew, Molla Eldana Beyene</i>	

An ECG Classification Method Based on Feature Fusion Model	271
<i>Guan Wencong, Juhar Mohammed Assefa, Fitsum Hailu Assefa, Sun Ming</i>	
CNN-Wavelet-Transform-Based Model for Solar Photovoltaic Power Prediction	275
<i>Lin Juchuang, Zhu Anmin</i>	
Fusion of INSAR and BDS for Subsidence Deformation Monitoring in Mining Areas: Sistem and Kalman Filtering Method	280
<i>Ye Yu, Chen Huaixin, Wang Haoyu, Ren Chengjie, Bai Chengwu</i>	
A Multi-Information Enhanced Attention Network for Session-Based Recommendation	285
<i>Song Minghui, Zhao Hairui, Dai Tingting, Liu Qiao, Li Chun, Wang Yongan</i>	
Knowledge Extraction and Discrimination Based Calibration on Medical Imaging Classification	293
<i>Sun Xiangpeng, Huang Zongmo, Jiang Ying, Yang Guowu</i>	
Non-Autoregressive Machine Translation with a Novel Masked Language Model.....	298
<i>Li Ke, Li Jie, Wangjun Wangjun</i>	
Deep Learning on Point Cloud for 3d Classification Based on Spiking Neural Network	302
<i>Zhang Silin</i>	
Recurrent Neural Network Based Kalman Filtering: A Suboptimal Approach	306
<i>Feng Zhenyu, Wang Gang, Peng Bei</i>	
A Present-Charitable App Design & Development Based on Harmonyos	310
<i>Cui Xiaohan, Yang Xishu, Luo Haiqun, Xi Yakai, Li Huiting</i>	
Reliable Semi-Supervised Learning on Imbalanced Evolving Data Stream	315
<i>Pan Liangxu</i>	
Lightened Context Extraction Network for Object Detection	319
<i>Huang Jiaxuan, Yu Lei, Yin Junping</i>	
Noise Suppression Based on Temporal Coherent and It's Application to Magnetic Anomaly Detection	325
<i>Lei Tingyu, Peng Genzhai, Wang Chengdong, Yan Huan, Zhang Zhihong, Chen Yong</i>	
Federated Approach for Lung and Colon Cancer Classification	332
<i>Bless Lord Y. Agbley, Jianping Li, Amin Ul Haq, Edem Kwedzo Bankas, Gideon Adjorlolo, Isaac Osei Agyemang, Browne Judith Ayekai, Derrick Effah, Isaac Adjeimensah, Jalaluddin Khan</i>	
A Chaos-Based and Ensembled Method for Outlier Detection	340
<i>Li Wei</i>	
A Novel Beam Selection Scheme Based on Group-Iteration Algorithm	344
<i>Yi Zhao, Ning Xiao</i>	
Underwater Acoustic Sensing with Rational Orthogonal Wavelet Pulse and Auditory Frequency Cepstral Coefficient-Based Feature Extraction	349
<i>Guo Tiantian, Eng Gee Lim, Miguel López-Benítez, Ma Fei, Yu Limin</i>	
Simulation of Dynamic Weighted MS Decoding Algorithm on LDPC for 5G	355
<i>Wang Qianchun, Jonathan M. Caballero</i>	

Data Analytics and Machine Learning for Reliable Energy Management: A Case Study	360
<i>Melak Ayenew, Hang Lei, Xiaoyu Li, Kulla Kekeba, Maregu Assefa, Abebe Tamrat Tegene, Seid Belay Muhammed, Habte Lejebo Leka</i>	
Wavelet Clustering Based on Cluster Signal	366
<i>Lu Jianyun, Li Shiguo</i>	
Massive MIMO Transmission Technology for 6G.....	370
<i>Yu Liqun</i>	
RIDRL: A Deep Reinforcement Learning Based on Multiple Dispatching Rules and IGA Algorithm for JSP	375
<i>Su Jin, Lyu Shubin, Lu Xin, Wan You, Li Fusheng</i>	
Design of Environmental Monitoring System Based on Wifi	379
<i>Yang Jieyu, Xia Ruohan</i>	
A Crosschain-Based Fair Exchange of Products for Poverty Alleviation.....	384
<i>Chen Yuan, Yang Anjia, Liu Zilin, Pei Qingfu, Ma Li</i>	
Query Optimization Scheme for Edge Device Data Management Based on Consortium Chain	392
<i>Xiaotian Qiu, Hu Xia, Jianbin Gao, Qi Xia</i>	
Anonymous Signcryption for Securing Knowledge Management System.....	396
<i>Philip Kwaku Adjei, Zhiguang Qin, Isaac Amankona Obiri, Nanor Ebenezer, Cobbinah Bernard Mawuli, Bless Lord Y. Agbley, Delanyo Kulevome</i>	
A Semi Parametric Autoregression Model for Predicting Air Quality.....	401
<i>Wang Zichun, Wang Jianjun</i>	
Disparity Analysis Between the Assembly and Byte Malware Samples with Deep Autoencoders	405
<i>Muhammed Amin Abdullah, Yongbin Yu, Jingye Cai, Yakubu Imrana, Nartey Obed Tettey, Daniel Addo, Kwabena Sarpong, Bless Lord Y. Agbley, Benjamin Appiah</i>	
Deep Reinforcement Learning Based Path Planning for Mobile Robots Using Time-Sensitive Reward	409
<i>Zhao Ruqing, Lu Xin, Lyu Shubin, Zhang Jihuai, Li Fusheng</i>	
A Retriever-Reasoner Method for Multi-Document Reading Comprehension	413
<i>Yu Fan, Qingwen Liu</i>	
Disentangling Interest and Causality for Recommendation Effectiveness	418
<i>Feng Liangchuan, Dong Qiang</i>	
Wb-Proxshare: A Warrant-Based Proxy Re-Encryption Model for Secure Data Sharing in IoT Networks Via Blockchain.....	424
<i>Collins Sey, Hang Lei, Xiaoyu Li, Weizhong Qian, Obed Barnes, Linda Delali Fiasam, Cong Zhang, Seth Larweh Kodjiku, Isaac Osei Agyemang, Isaac Adjei-Mensah, Xiaolei Shang</i>	
Tabnet with Data Augmentation Approach in Stock Return Prediction Task	431
<i>Wang Zhuohan</i>	
Research on Security Technology of Sensing Terminal of Internet of Things.....	436
<i>Li Xianli, Pan Wei, Wang Yisheng, Li Ming, Liu Guosong</i>	
Image Recognition Algorithm Based on Spiking Neural Network.....	440
<i>Xiao Fei, Li Jianping, Tian Jie, Wang Guangshuo</i>	

An Overview of Spikingneural Networks	445
<i>Tian Jie, Li Jianping, Wang Guangshuo, Xiao Fei</i>	
Deep Learning Techniques for Breast Cancer Mitotic Cell Detection	450
<i>Jiquan Li, Laixiang Qiu, Yujun Yang, Wang Zhou</i>	
Research on Image Classification Combining Wavelet Analysis and Spiking Neural Network.....	454
<i>Xiao Fei, Li Jianping, Tian Jie, Wang Guangshuo</i>	
Machine Learning Base Methods for Breast Cancer Diagnose	458
<i>Deng Yang, Yang Yujun, Qiu Laixiang, Zhou Wang</i>	
Recommender Algorithms: From Matrix Factorization to Neural Network.....	462
<i>Xiang Li, Laixiang Qiu, Yujun Yang, Wang Zhou</i>	
Privacy-Preserving and Models Intrusion Detection Federated Deep Learning Challenges, Schemas and Future Trajectories.....	466
<i>Yang Yu, Li Jianping, Duan Weiwei</i>	
Research on High-Quality Employment of College Students Based on Big Data Technology and Artificial Intelligence.....	476
<i>Yang Yujun, Yang Yimei, Zhou Wang, Li Wei, Li Liyun, Hu Debin</i>	
Speech Recognition Model with Spatio-Temporal Encoding and Brain-Like Neural Networks	482
<i>Yang Lewei, Wang Haiqing, Sun Fengwei</i>	
Fruit Detection and Segmentation Using Customized Deep Learning Techniques	486
<i>Muhammad Hanif Tunio, Li Jianping, Muhammad Hassaan Farooq Butt, Imran Memon, Yumna Magsi</i>	
A New Blind Road Classification Method Based on Wavelet Feature Fusion and Transfer Learning for Mobile Environment	491
<i>Li Lin</i>	
Atypical Dynamics of Sub-Networks Predict Restricted Repetitive Patterns of Behaviors in Children with Autism Spectrum Disorder	499
<i>Xiao Jinming, Duan Xujun, Meng Yao, Li Lei, Huang Xinyue, Chen Huaifu</i>	
Pixel-Level Feature Clustering Learning for Image Anomaly Detection and Localization.....	503
<i>Huang Chao</i>	
Image-Text Matching with Shared Semantic Concepts.....	507
<i>Miao Lanxin</i>	
RETR: End-To-End Referring Expression Comprehension with Transformers.....	512
<i>Yang Rui</i>	
EVA: Evolving Giant Pretrained Model for Few-Shot Conditional Image Generation.....	517
<i>Zhai Zhixin</i>	
Defect Recognition of Metal Components Based on Transfer Learning and Feature Fusion.....	523
<i>Li Yuanyuan, Zhao Junren, Liu Hailong, Chen Xi</i>	
Detection of Melanoma Skin Cancer Using Capsule Network and Multi-Task Learning Framework.....	531
<i>Esther Stacy E. B. Aggrey, Qin Zhen, Seth Larweh Kodjiku, Kwame O. Asamoah, Obed Barnes, Linda Delali Fiasam, Evan Aidoo, Henrietta Aggrey</i>	

M3E-Yolo: A New Lightweight Network for Traffic Sign Recognition.....	536
<i>Guo Haoran, Li Fan, Kuang Ping, Xiong Gang</i>	
Small Object Detection Algorithm Based on Context Information and Attention Mechanism	542
<i>Zhong Hang, Li Fan, Kuang Ping, Gu Xiaofeng, He Mingyun, Tang Heng</i>	
AW-PCNN: Adaptive Weighting Pyramidal Convolutional Neural Network for Fine-Grained Few-Shot Learning	548
<i>Li Hengbai</i>	
Look, Tell and Match: Refining Video-Text Retrieval with Semantic Information.....	554
<i>Zhu Jinkuan, Hu Weiyi</i>	
Hierarchical Weighting Network with Depth Cues for Real-Time Video Salient Object Detection	560
<i>Xu Mengnan, Gao Pan, Zhang Ziyang, Zhang Ping</i>	
Subcortico-Cortical Interactions of Edge Functional Connectivity in Parkinson’s Disease.....	564
<i>Zou Ting, Wang Yingzhi, Wang Xuyang, Chen Huafu, Chen Chen, Zhang Chunyan, Cheng Jingliang, Li Rong</i>	
Semantic Enhancement Loss Function Based on Attention Mechanism.....	570
<i>Teng Shuhua, Zheng Lidong, Cheng Zhengting, Yuan Zhian, Ma Yanxin</i>	
An Unsupervised Domain Adaptation Method for Compressed Video Quality Enhancement.....	575
<i>Wang Zeyang</i>	
Deep Multi-Levels Edge-Guided Network for Super-Resolution	580
<i>Xu Yifei, Zhao Jiakun</i>	
The Double-Edged Sword Effect of Salesmen Social Media Use on Creativity	585
<i>Xiao Yunpeng, Wang Zhaohui</i>	
Federated Lung Cancer Prediction Using Histopathological Medical Images	589
<i>Browne Judith Ayekai, Chen Wenyu, Mamo Tadiyos Hailemichael, Linda Delali Fiasam, Agbesi Victor Kwaku, Fortune Agbley, Williams Ayivi, Francis Sam, Juliana Mantebea Danso, Delanyo Kulevome, Cobbinah Bernard Mawuli</i>	
Automatic Image Contrast Enhancement Based on Reinforcement Learning.....	595
<i>Deboch Eyob Abera, Tesfay Semere Gerezgiher, Qi Jin, Gebre Fisehatsion Mesfin</i>	
MPPT Control of Boost Structure Solar Collector Assisted by Buck Circuit.....	601
<i>Zhong Qiong, Dai Jing, Tang Yusha, Tian Ziyi, Zheng Mingcai</i>	
Optimization of Sequencing Problem for Automobile Manufacturing Based on Sorting Buffer	607
<i>Zhang Ruizhi, Li Jun, Shen Xiaofeng</i>	
IoT-Based Controller Description Language and System.....	612
<i>Zhou Gang, Chen Fenglei, Lu Xiaojun</i>	
A Dynamic Topology Modeling Method in Wind Tunnel Group Based on Adjacency Matrix.....	618
<i>Luo Changjun, Ma Yongyi, He Fu, Fu Xuanli, Ren Xingqian</i>	
A Spectrum Prediction Method Based on Two-Dimensional Hidden Markov Model for UAV Communications.....	628
<i>Zhang Qixiang, Luo Shan, Liu Haibo, Lin Rongping</i>	

Research on "AI+RPA" Interactive Technology of Intelligent Financial Management Platform.....	633
<i>Liu Kai, Liu Wenxin, Zhang Ran, Ke Suihua, Yan Dazhu, Zhao Min, Tian Wenhong</i>	
Research on Multilayer Perception and Control of Intelligent Vehicles.....	638
<i>Xie Tao</i>	
Design and Implementation of Sewage Pipeline Cleaning Robot Based on Beidou Positioning.....	644
<i>Zhou Yu, Zhang Xing, Zheng Zirui, Liu Qiang, Feng Gao</i>	
Design of Industrial Environment Navigation Monitoring System Based on Beidou Positioning and Slam Technology.....	650
<i>Zhang Xu, Gao Feng, Hu Enbo</i>	
Research on Location Method of Distributed Communicational Radar.....	657
<i>Tan Zhiguo, Shi Longfei, Yang Xiaofan, Teng Shuhua</i>	
Hardware Circuit Design and Engineering Application of Multi-Channel Thermocouples Acquisition.....	663
<i>Yu Hang, Yuan Xuwen, Xie Chuanlin, Gu Jingliang, Zhou Yanqing, Wang Jianwei</i>	
An Adaptive Hardware Accelerator for Convolution Layers with Diverse Sizes.....	669
<i>Zhao Yiwei, Zou Hao, Tang Ming, Lin Qiutong</i>	
Freeway Free-Flow Payment System Based on Beidou.....	679
<i>Xia Peng, Zhao Di, Gao Ming</i>	
The Design of Sound Source Localization System Based on STM32.....	684
<i>Zou Xin, Tan Zhouwen, Gu Yuejin</i>	
Outage Probability in a Hybrid VLC/RF Network Enhanced by Energy Harvesting Relay.....	689
<i>Yao Ding</i>	
A Mobile Intelligent Anti Ice and Snow Removing Spray System.....	695
<i>Cheng Zhengting, Du Zhaohua, Tan Zhiguo, Gao Feng, Zhang Xing, Teng Shuhua</i>	
Design and Implementation of Beidou-Based Intelligent Vehicle Terminal.....	700
<i>Li Shiyou</i>	
The Construction and Experimental Approach of Anonymous Network Analysis and Control Platform.....	708
<i>Feng Yuchao, Zhang Xinyan, He Ketai</i>	
Failure Analysis of ABS TV Bracket Based on Abaqus Fatigue Damage Redevelopment.....	714
<i>Bian Tinghui, Fang Xiaoyong, Duan Ran, Chen Qimao, Zhang Xin</i>	
An Accelerator of Efficient DSP Based on FPGA.....	719
<i>Zhang Boyu, Zou Hao, Tang Ming, Lin Qiutong</i>	
Self-Supervised Representation Learning for Motion Control of Autonomous Vehicles.....	726
<i>Melese Ayalew, Shijie Zhou, Maregu Assefa, Kumie Gedamu, Getinet Yilma</i>	
The Design of a Soccer Robot Game Strategy Based on Fuzzy Decision Algorithms.....	731
<i>Zhengzhong He</i>	
Community Detection Approach Via Graph Regularized Non-Negative Matrix Factorization.....	736
<i>Amin Ul Haq, Jian Ping Li, Ghufuran Ahmad Khan, Jalaluddin Khan, Mohammad Ishrat, Abhishek Guru, Bless Lord Y. Agleby</i>	

Efficiency Evaluation of Digital Transformation on Performance Improvement in Chinese Listed
Companies..... 743
Zhu Hui, Feng Lingyue, Li Xinshuo

Author Index