

2019 IEEE 11th International Conference on Communication Software and Networks (ICCSN 2019)

**Chongqing, China
12 – 15 June 2019**



**IEEE Catalog Number: CFP1969F-POD
ISBN: 978-1-7281-2185-7**

**Copyright © 2019 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:	CFP1969F-POD
ISBN (Print-On-Demand):	978-1-7281-2185-7
ISBN (Online):	978-1-7281-2184-0
ISSN:	2159-3566

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

2019 IEEE 11th International Conference on Communication Software and Networks ICCSN 2019

Table of Contents

Welcome Message from General Chair	xv
Conference Committee	xvi

Wireless Resource Allocation

Data-driven Vehicular Communications in Urban Vehicular Network.....	1
<i>Wen Zhang, Zhengyang Zhou, Chuancai Ge, Pengkun Wang</i>	
Throughput of the Random Linear Network Coding for Broadcast Erasure Channel	9
<i>Zhonghui Mei, Youxiong Lu</i>	
Preamble Based Frequency Domain Channel Estimation Method for Optical OFDM/OQAM System.....	13
<i>Zhufeng Suo, Ding Ding, Yueyang Yu, Lei Zhang, Xi Fang, Xianwei Gao</i>	
Routing and Spectrum Assignment Algorithm with Traffic Prediction and Periodic Rerouting in Elastic Optical Networks.....	17
<i>Shuiyan Zhang, Zhanqi Xu, Shuang Du, Jie Wu</i>	
Mobile Node Path Planning Based on Particle Swarm Optimization	22
<i>Chen Chuixin, Cheng Hanxiang</i>	
TOR-ME: Reducing Controller Response Time Based on Rings in Software Defined Networks	27
<i>Jianchun Liu, Liusheng Huang, Chunming Qiao, Shishuang Wang</i>	
GeoTAR: A Map-Based and Traffic-Aware VANET Routing in Urban Scenario	34
<i>Rui Wu</i>	
Performance Analysis of Several Relay Node Selection Schemes for Cooperative Communications.....	41
<i>Zhonghui Mei, Youxiong Lu</i>	
NCMDSDV: A Neighbor Coverage Multipsth DSDV Routing Protocol for MANETs.....	46
<i>Nan Wang, Rishika Datla, Harshdeep Jhaji</i>	
An Intelligent Congestion Control Method in Software Defined Networks	51
<i>Jihong Zhao, Mengfei Tong, Hua Qu, Jianlong Zhao</i>	

Study on Fiber Bragg Grating Monitoring Technology for Oil and Gas Pipelines Crossing the Landslide....	57
<i>Bing Han, Qiang Fu</i>	
Wireless Virtual Embedding Algorithm Considering Inter-cell Interference in 5G Ultra-dense Network	62
<i>Hui Zhang, Yangbo Liu, Haitao Zhao, Hongbo Zhu, Yanfei Sun</i>	
An Efficient Scheduling Algorithm for Adjustable Time Slots in Time-Triggered Ethernet.....	68
<i>Meichen Liu, Hongxi Yin, He Li, Xiuyang Ji</i>	
QRS Detection in ECG Signal Based on Residual Network.....	73
<i>Xingjun Wang, Qingyan Zou</i>	
Joint Optimization Scheme for Transmission Power and Pilot Allocation in TDD Massive MIMO Systems ..	78
<i>Bo Lin, Ruizhe Yang, Yanhua Sun, Wenjun Wu, Yanhua Zhang</i>	
Anchor-Pairs Conditional Decision-Based Node Localization for Anisotropic Wireless Sensor Networks ...	84
<i>Feng Han, Xingcheng Liu</i>	
TFRC-EA: An Adaptive Algorithm of TFRC in Satellite Networks	89
<i>Guochao Hao, Pengbo Si, Yanhua Sun, Yanhua Zhang</i>	
Joint Carrier Frequency Offset and Channel Estimation for OFDM/OQAM Systems on AWGN Channel ...	95
<i>Yongjin Liu, Xihong Chen</i>	
Space-based Optical Burst Switching Assembly Algorithm Based on QoS Adaption	101
<i>Yuqi Wang, Te Chen, Na Zhou</i>	
Secrecy Energy Efficiency Maximization in a NOMA System	106
<i>Rugui Yao, Lukun Yao, Xiaoya Zuo, Nan Qi, Yinsheng Liu, Juan Xu</i>	
Performance Analysis and Functionality Comparison of FHRP Protocols	111
<i>Usman Anwar, Jing Teng, Hafiz Ahmad Umair, Ammar Sikander</i>	
Performance Analysis of Decode-and-Forward Based SWIPT Systems with Direct Link.....	116
<i>Yingting Liu, Zhengwei Pan, Ruyi Xiao, Hongwu Yang, Chunman Yan</i>	
Research on Harmonic Characteristics of Controllable Reactor	120
<i>Hanxiang Cheng, Gongxing Chen, Li Kai</i>	
Wide-frequency Domain Position Actuation Control Signal Detection System Based on Wavelet Transform	128
<i>Liang Sha, QingHua Yang, XiaoWei Tu, XuHui Li, Yan Tong</i>	
A Low Complexity Multi-symbol Non-coherent MSK Receiver	133
<i>Chunfei Wu, Shuai Wang, Yue Zhao</i>	

Design of Smooth Traffic Migrating for Multi-network Convergence	140
<i>Li Zhanbin, Liu Feng, Wang Xiting, Wu Wenting, Zhang Lei, Wang Qi, Zhang Bin</i>	
A Novel Intersecting Cortical Model Based Adaptive Parameter Setting and Segmentation Method for Waveform Images	145
<i>Kedir Kamu Sirur, Ye Peng, Zhang Qinchuan</i>	
A Topology Searching on Dual-plane Redundancy Network with Multiple Threading Method	154
<i>Li Lin, Yun Lan, Xi-Quan Dong, Yong-hua Huo</i>	
Min-max SNR Optimization of Virtual Channel for Overloaded MIMO Systems	158
<i>Rongzhen Miao, Yuanping Zhou, Tuanning Liu</i>	
An Energy-Efficient Distributed Adaptive Cooperative Routing in Wireless Multimedia Sensor Networks.	163
<i>Jian Liu, Denghui Wang, Junhui Zhao</i>	
Evaluation of the Candidate Waveforms for the TDD-LTE Based Passive Radar	170
<i>Xiaohui Wang, Renhui Xu, Laixian Peng, Lei Zhang, Hai Deng</i>	
Impact of Blanket Jamming on Signal Recovery from Compressed Measurements	176
<i>Guojing Li, Qinglin Lu, Qiu Jin, Wei Yang</i>	
Security Mechanism in the Internet of Things by Interacting HTTP and MQTT Protocols.....	181
<i>Abdulaleem Ali Almazroi</i>	

Signal Detection and Processing

Research of All-optical Broadcast Doublet Signals Based on Semiconductor Fiber Ring Laser.....	187
<i>Zhao ZanShan</i>	
An Improved Signal Number Estimation Method Based on Information Theoretic Criteria in Array Processing	193
<i>Jiang Bin, Lu An'nan, Xu Jie</i>	
Constellation Design of Nonequiprobable Signal and Its Application in Parallel Combinatory Spread Spectrum System	198
<i>Chen Ying, Dou Gao-qi, Wang Qing-bo</i>	
Cross Ambiguity Function Interpolation Algorithm for FDOA Estimation of Signal Location	202
<i>Peng Sun, Gengxin Zhang, Dexin Qu, Hui Ji, Hengheng Guo</i>	
Preamble Based Frequency Domain Channel Estimation Method for Polarization-Division-Multiplexed CO-OFDM/OQAM System	206
<i>Zhufeng Suo, Ding Ding, Yixin Fu, Lei Zhang, Xi Fang, Xianwei Gao</i>	

Probabilistic Caching Mechanism Based on Software Defined Content Centric Network	210
<i>Yanyu Gao, Jinhe Zhou</i>	
A Novel Generalized Modeling Mechanism for VHF and UHF Mobile-to-Mobile Channels.....	215
<i>Haiyu Ren, Longfei Gao, Xiaoxin He</i>	
An Energy Balance Routing Mechanism for Wireless Sensor Networks Based on Particle Swarm Optimization.....	222
<i>Anlin Zhang, Hui Chen, Daoying Huang, Weizhen Wang, Shuai Dong, Xuanli Wang</i>	
New 16-QAM Golay Complementary Sequences	227
<i>Yue Zeng, Lisheng Zhang, Fanxin Zeng, Xiping He, Guixin Xuan, Zhenyu Zhang</i>	
On the Design of Solfeggio Audio Machine Assessment System.....	234
<i>Xiaojuan Yang, Kunhong Liu, Bin Chen, Qingqiang Wu, Minhong Xu, Changchun Li</i>	
Research on End-to-End Security Authentication Protocol of NB-IoT for Smart Grid Based on Physical Unclonable Function.....	239
<i>Donglan Liu, Xin Liu, Hao Zhang, Hao Yu, Wenting Wang, Lei Ma, Jianfei Chen, Dong Li</i>	
Modelling and Optimization Algorithm for Dynamic Volume of Access to VOD Business in Ubiquitous Wireless Environment	245
<i>Hui Zhang, Yejun Sun, Yaxiang Lou, Haitao Zhao, Hongbo Zhu, Yanfei Sun</i>	
A Delay and Energy Consumption Efficient Offloading Algorithm in Mobile Edge Computing System.....	251
<i>Zhe Hao, Yanhua Sun, Yanhua Zhang</i>	
A 1096fps Hardware Architecture for Fast Training in Object Tracking	258
<i>Yun Lv, Huiyu Mo, Leibo Liu, Shouyi Yin, Shaojun Wei, Wenping Zhu, Qiang Li</i>	
Channel Bonding Based on Game Theory in Dense WLANs	263
<i>Min Peng, Kai Zhang, Caihong Kai</i>	
A Weight Factors Localization Algorithm in Fog-Supported Wireless Sensor Networks.....	268
<i>Yichao Chen, Enchang Sun, Yanhua Zhang</i>	
Simplified Minimum Fourth-Order Moment Haze Channel Equalization Algorithm.....	275
<i>Tao Yuan, GuoYi Wang</i>	
Enhanced Energy Efficient Power Allocation Algorithm for Massive MIMO Systems	280
<i>Deng Honggui, Yang Jinli, Liu Gang</i>	
Design of Data Communication and Monitoring System Based on Aviation ARINC825 Bus	286
<i>Nan Su, XiaoWei Tu, QingHua Yang, XuHui Li, Yan Tong</i>	

Performance Evaluation of the Error Control Scheme with Different Packet Scheduling in Multi-channel Systems	291
<i>Qian Li, Chun-Xiang Chen</i>	
A Segment List Management Algorithm Based on Segment Routing	297
<i>Jianxin Zhou, Zhipeng Zhang, Ning Zhou</i>	
Position-aware Uplink Beamwidth Adjustment Scheme of Massive MIMO for High-Speed Railway Communications.....	303
<i>Jigang Cao, Rui Jiang, Youyun Xu, Dapeng Li</i>	
A Reliability Low Bit Rate Receiving Technology for Telecontrol in Deep Space Exploation Communication	309
<i>Xiaohu Shen, Dong Zhou, Xiaorui Yang, Ke Li</i>	
Nonlinear Haze Channel Equalization Algorithm Based on Improved Neural Network	313
<i>Tao Yuan, GuoYi Wang</i>	
Optimal Sensing Slots Determination for UAV under Correlated Log-normal Shadowing	318
<i>Zhang Yuheng, Wu Yan, Xu Yanyong</i>	
Forwarding Strategies Performance under Diverse Topologies in Named Data Networking.....	322
<i>Tao Hu, Lingyun Jiang</i>	
Cross-spectral Correlation Direction Finding Method for Linear Splitting Array Based on MVDR Beams..	328
<i>Li Zhizhong, Xu Zhongliang, Yang Gang, He Xianwen</i>	
Investigating the Effects of Channel Estimation Errors in mmWave MIMO Precoding Systems	332
<i>Arsalan Zeb, Feng Li</i>	
Joint Power Allocation and Beamforming between a Multistatic Radar and Jammer Based on Game Theory	337
<i>Bin He, Hongtao Su</i>	
An Efficient Calibration Method for Large-Scale Spaceborne Beam Forming Networks	342
<i>Yuan Gao, Yujie Lin, Zhe Zhao</i>	
An Environmental Friendly Routing with Channel Allocation for Underwater WSNs	348
<i>Hao Su, Yujie Qian, Jie Zhang</i>	
The Improved Maximum-Likelihood Detection Algorithm for MIMO Systems Based on Differential Metrics	353
<i>Deng Honggui, Liu Xiaoxiong, Liu Gang</i>	

Image Processing

Improved Non-local Means Algorithm for Image Denosing	358
<i>Menglong Li, Yi Xu</i>	
Pixel-level Multi-focus Image Fusion Algorithm Based on 2DPCA.....	362
<i>Isma Hamid, Qamar Nawaz, Muhammad Azam Zia, Imran Mumtaz</i>	
Supapixel Segmentation of Breast Cancer Pathology Images Based on Features Extracted from the Autoencoder	366
<i>Jingfan Zhou, Jun Ruan, Chenchen Wu, Guanglu Ye, Zhikui Zhu, Junqiu Yue, Yanggeling Zhang</i>	
A Hybrid Algorithm for Wide-Field Imaging with Radio Synthesis Arrays	371
<i>Ang Yu, Baoqiang Lao, Tao An, Junyi Wang, Wenhui Zhang</i>	
Image Representation Using Variants of Principal Component Analysis: A Comparative Study	376
<i>Abubakar Siddique, Isma Hamid, Weisheng Li, Qamar Nawaz, Syed Mushhad Gilani</i>	
Underwater Image Processing System for Image Enhancement and Restoration	381
<i>Chengyi Cai, Yiheng Zhang, Ting Liu</i>	
Web Hot Topic Picture Crawler	388
<i>De-zhi Wang, Jun-yan Liang</i>	
SHANZ Algorithm for QoE Enhancement of HTTP Based Adaptive Video Streaming	393
<i>Shahid Nabi, Muhammad Umar Farooq, Farhan Hussain</i>	
Image Restoration of Agricultural History Based on Neural Patch Synthesis	401
<i>Yuwei Chen, Yuehong Cui, Jinghua Wu</i>	

Communication System

Two Design Schemes for LT Codes Degree Distribution by Combining Degree Distribution	419
<i>Cong Liu, Wei Fei, Sheng Hu</i>	
S-Band LNA for Future Satellite Navigation Systems.....	425
<i>Muhammad Arsalan, Falin Wu</i>	
Usage of Millimeter-wave and Sub-6GHz Band with Full-duplex Relays in Heterogeneous Networks: An Information-theoretic Analysis	429
<i>Jeongwan Koh, Rumin Yang, Wan Choi, Joonhyuk Kang</i>	

Analysis and Research on Vehicle-ground Communication Failure of CBTC System	437
<i>Huang Xiao-jie, Chen Yu-lei, Bian Ting, Tang Kai, Gu Jing-bo, Yang Ming-lai</i>	
Research on Security Protection of Key Information Infrastructure in Optical Networks	442
<i>Ren Shuai, Zhang Yinfa, Xia Guijin, Rao Xuejun, Wang Xiaoshuang</i>	
Crease Detection and Repair Based on Minutia Density Distribution	446
<i>Wen Jian, Yujie Zhou, Hongming Liu, Nianhao Zhu</i>	
Design and Implementation of Spaceborne Fast Router Based on SDRAM	452
<i>Wang Cuilian, Li Yin, Shen Xiaohu, Zhou Dong, Li Ke</i>	
Buffer Management for Reducing Packet-in Messages in OpenFlow Networks.....	458
<i>Zhihao Shang, Han Wu, Katinka Wolter</i>	
DSDV and AODV Protocols Performance in Internet of Things Environment.....	466
<i>Saqib Daud, Syed Mushhad M. Gilani, Muhammad Shahid Riaz, Asif Kabir</i>	
ACB Based Group Paging Overload Control Method for Massive MTC Accesses in LTE Networks	471
<i>Chengqiang Wei, Ning Li, Yancheng Chen, Cong Wang</i>	
Security Enhancement of D2D Communication Based on Handshaking Mechanism	484
<i>Md. Monjurul Islam, Zhongshan Zhang</i>	
An Enhanced Mutual Authentication Scheme Based on ECDH for IoT Devices Using ESP8266.....	490
<i>Anothay Phimphinit, Xiong Anping, Qingyi Zhu, Yi Jiang, Yong Shen</i>	
An Efficient VNF Deployment Scheme for Cloud Networks	497
<i>Jianguo Fu, Guanglei Li</i>	
Multi-source Log Comprehensive Feature Extraction Method Based on Restricted Boltzmann Machine in Power Information System	503
<i>Donglan Liu, Hao Yu, Wenting Wang, Hao Zhang, Xiaohong Zhao, Yang Zhao, Jianfei Chen, Dong Li</i>	
An EH-WSN Clustering Algorithm Based on Energy Prediction.....	509
<i>Xinyue Cui, Dongchao Ma, Li Ma</i>	
An Improved K-means Algorithm Based on Intersection over Union for Network Security.....	514
<i>Hui Xu, Chaochuan Fu, Shunyu Yao, Xinlu Zong</i>	
Control Singaling Scheme of Upstream Data Transmission for Power Internet of Things.....	518
<i>Chao Huo, Ganghong Zhang, Jie Zhou</i>	

An Implementation of RTS/CTS Mechanism and CS Algorithm for Maximum Performance of D2D Communication.....	523
<i>Md. Monjurul Islam, Zhongshan Zhang</i>	
Fractional Order Edge Detection Method	529
<i>Die Li, Chunna Zhao, Murong Jiang, Yaqun Huang, Yinghua Li</i>	
An Effective Tile Caching Mechanism of UAV Remote Sensing Map Based on Hilbert Coding Index	535
<i>Dandan Guo, Yujiao Zou, Shuai Wang</i>	
A Cylindrical Ultra-wideband Monopole Antenna Design	542
<i>Xuefei Liu, Mang He</i>	
A Beamspace-Based DOA Estimation Algorithm for 2D Massive MIMO Systems.....	546
<i>Hongli Zhou, Yang Liu, Cheng Lv, Yuting Li, Jia Yu</i>	
A Load Balancing Algorithm for Distributed Crawler System	553
<i>Shutao Zhang, Haibo Tan, Liangfeng Chen, Bo Lv</i>	
Research on Multi-user Access Control Scheme for Private Cloud in Space Control Center	558
<i>Min Liang, Hui Zhang, Fei Gao, Hao Wang, Jun Wei, Ming Huang</i>	
The Implementation of High-Precision Ranging Technology Based on Dual Mixer Time Difference	565
<i>Jingyu Song, Yongfeng Ma, Hongquan Zhu, Baogui Wang</i>	
Voltage Quality Evaluation of Cyber Power System under Software Failure	570
<i>Wenxia Liu, Rongjie Wang, Hui Han</i>	
Analysis of Random Mixed Image Encryption Algorithm Based on QoS	575
<i>Zhao Lei, Bao Li-yong, Ding Hong-wei, Huang Bin</i>	
LTE 230MHz Wireless Private Network-Based Edge-Cloud Collaboration Architecture for Ubiquitous Power Internet of Things.....	579
<i>Licheng Wang, Dongshan Wang, Ganghong Zhang, Chao Huo, Jianan Yuan, Chong Zhao</i>	
Research on Protection for the Database Security Based on the Cloud of Smart Grid	585
<i>Donglan Liu, Hao Zhang, Wenting Wang, Yang Zhao, Xiaohong Zhao, Hao Yu, Guodong Lv, Yong Zhao</i>	
A Conceptual Framework of Virtualization and Live-Migration for Vehicle to Infrastructure (V2I) Communications.....	590
<i>Zahid Khan, Fakhar Abbas, Hamidullah</i>	
A Short Range Two-way Frequency Transfer Experiment in Free Space	595
<i>Zhangjian Lu, Yansong Meng, Guoyong Wang, Yuanbo Yao</i>	

Design and Implementation of On-orbit Reconfigurable Inter-satellite Links Router	599
<i>Guoping Feng, Yong Xu, Ke Li, Dong Zhou, Luyuan Wang</i>	
Design and Implementation of Internet of Things Message Subscription System Based on Kafka	603
<i>Zhonghu Yuan, Bowen Pang, Yingkui Du, Xin Liu, Junhao Yao, Cunliang Kong</i>	
A New Cyclic Spatial Attention Module for Convolutional Neural Networks	607
<i>Li Daihui, Zeng Shangyou, Li Wenhui, Yang Lei</i>	
An Overview of Shanghai VGOS Wideband VLBI System.....	612
<i>Zheng xiong Sun, Jin qing Wang, Guang li Wang</i>	
Performance Simulation and Experimental Verification of Fast Broadband MVDR Algorithm.....	616
<i>Li Zhizhong, Yang Gang, Jiang Bin, Li Haitao, Xu Jingfeng</i>	
Design of Satellite Network-Based Remote Control and Monitoring System for Power Plants	621
<i>Praphan Pavarangkoon, Ken T. Murata, Yasushi Inoyama, Takamichi Mizuhara, Yuya Kagebayashi,</i> <i>Kazunori Yamamoto, Kazuya Muranaga, Eizen Kimura</i>	
Dynamic Configuration of Optical Physical Layer Using SDN and Optical Network Description Language	626
<i>Nitin K. Lohar, Subrat Kar</i>	
Human and Vehicle Attenuations for Millimeter-wave Channels	631
<i>Pao-Jen Wang, Po-Yu Lee, Chi-Min Li</i>	
NBI Modeling Realization for SDOTN Based on ACTN.....	635
<i>Yanlei Zheng, Yantao Zhou, Guangquan Wang, Yacheng Liu</i>	
Practical Application of Phase-Stabilized Transmission Device in Radio Telescope System	642
<i>Yongchen Jiang, Jinqing Wang, Wei Gou, Wu Jiang, Linfeng Yu, Zhengxiong Sun, Yongbin Jiang</i>	

Computer Applications

Research on a Dynamic Transfer Protocol for Multi-owner Tag Ownership.....	647
<i>Yong Gan, Yun Xiao Zhang, Lei He, Qi Kun Zhang</i>	
K-Means Clustering Analysis Based on Adaptive Weights for Malicious Code Detection	652
<i>Sun Haoliang, Wang Dawei, Zhang Ying</i>	
Design of Embedded Smart Home Network	657
<i>Jianzhi Deng, Yuanyuan Guang, Jinshi Qin</i>	
Emotional Induction Study of Video in Menstrual Cycle through ECG Signal.....	661
<i>Juan Yu, Guang Y. Liu, Yong H. Fang, Yan M. Ma</i>	

Full Convolutional Color Constancy with Adding Pooling	666
<i>Tian Yuan, Xueming Li</i>	
Attention-Based Deep Neural Network and Its Application to Scene Text Recognition	672
<i>Haizhen He, Jiehan Li</i>	
QoE Oriented Cognitive Network Based on Machine Learning and SDN.....	678
<i>Lei Wang, Declan T. Delaney</i>	
Classification of Road Traffic Accident Data Using Machine Learning Algorithmsv	682
<i>Bulbula Kumeda, Fengli Zhang, Fan Zhou, Sadiq Hussain, Ammar Almasri, Maregu Assefa</i>	
Scene Text Recognition Based on Deep Learning: A Brief Survey	688
<i>Yuxin Chen, Yunxue Shao</i>	
Design of a Miniaturized Low-Profile Archimedean Spiral Antenna with Tapered Balun Transformer.....	694
<i>Chunbo Wu, Song Wu, Hao Wang, Shaojun Wang, Jun Wang</i>	
Comparing Branch Predictors for Distributed-Controlled Coarse-Grained Reconfigurable Arrays.....	698
<i>Liu Jian, Leibo Liu, Yanan Lu, Jianfeng Zhu, Shaojun Wei</i>	
Design and Implementation of High-Performance Space Router Based on FPGA	704
<i>Dong Zhou, Xiaohu Shen, Ke Li, Guoping Feng, Luyuan Wang</i>	
Video Data Hierarchical Retrieval via Deep Hash Method	709
<i>Yucong Suo, Chen Zhang, Xiaoyun Xi, Xinyi Wang, Zhiqiang Zou</i>	
A Model Checking Based Survivability Evaluation Framework of Wireless Network.....	715
<i>Lei Li, Zhifeng Liu, Conghua Zhou</i>	
Research for Emergency Communication System Design in Nuclear Power Plant Based on Safety Requirements	722
<i>Jiaorong Chen, Tianyu Wang, Yue Du, Shouyang Zhai</i>	
Review and Prospect of Research on Generative Adversarial Networks.....	726
<i>Zhao Fan, Jin Hu</i>	
Risk-Based and Dependency-Aware Criteria Specification for Cloud Services Security Evaluation.....	731
<i>Sarah Maroc, Jian Biao Zhang</i>	

Network Security and Network Coding

Punctured Turbo-Polar Codes.....	736
<i>Yongzhi Qi, Deyuan Chen, Can Zhang</i>	

Research of Applications of Compressed Sensing in VANET	742
<i>Fu Pang, Xiangyu Bai, Maoli Ran</i>	
ACS-WAM: An Access Control Scheme Supporting Write Authority Management in Cloud-assisted Cyber-Physical Systems	747
<i>Anyuan Deng, Jiaoli Shi, Kai He</i>	
An Optimized Radio Frequency Fingerprint Extraction Method Applied to Low-End Receivers.....	753
<i>Fangyuan Zhao, Yanhua Jin</i>	
Ant Colony Optimization of Licklider Transmission Protocol Based on Unequal Error Protection Fountain Code	758
<i>Haonan Cao, Zijing Cheng, Yang Zhao, Yali Liu, Xiaoman Zhang</i>	
RSSI Sequence and Vehicle Driving Matrix Based Sybil Nodes Detection in VANET	763
<i>Wei Li, Dongmei Zhang</i>	
Design of a Network Coding Concurrent Multipath Transmission Algorithm in Complex Mobile Environment	768
<i>Beidi Liu, Ping Dong, Yuyang Zhang</i>	
High-Throughput Dynamic Scheduling for Belief-Propagation Decoding of LDPC Codes	773
<i>Suipeng Xie, Xingcheng Liu</i>	
Density-Based Clustering Two-Stage Precoding Scheme in Massive MIMO System	778
<i>Ziyan Liu, He Bai</i>	
Software Defined Security Architecture with Deep Learning-Based Network Anomaly Detection Module	784
<i>Gang Zhang, Xiaofeng Qiu, Yang Gao</i>	
Secure Beamforming and Artificial Noise Design in Full-Duplex Wireless-Powered Relay Networks.....	789
<i>Peipei Chen, Taoshen Li, Xing Fang</i>	
Implementing Randomized Salt on Round Key for Corrected Block Tiny Encryption Algorithm (XXTEA).....	795
<i>Elbert M. Galas, Bobby D. Gerardo</i>	
The Parallel CMAC Authentication Algorithm.....	800
<i>Syed Jahanzeb Hussain Pirzada, Abid Murtaza, Jianwei Liu, Tongge Xu</i>	
Head and Tail Technique for Hashing Passwords.....	805
<i>Michael Angelo D. Brogada, Ariel M. Sison, Ruji P. Medina</i>	
Research on Intrusion Prediction Algorithm Based on Association Attack Diagram ASAD	811
<i>Xiao He</i>	

Optimization of Single Pattern Matching Based on Sunday Algorithm.....	816
<i>Tianxiao Xue, Qingbao Li, Zhifeng Chen, Ye Wang, Peijun Feng, Nan Luo</i>	
Hill Cipher Modification: A Simplified Approach	821
<i>Jessie R. Paragas, Ariel M. Sison, Ruji P. Medina</i>	
Two-point Joint CPA Attacks against SM4 Algorithm	826
<i>Cheng Zhao, Xiuying Li, Jifang Jin, Xiaohong Fan</i>	

Author Index