2019 7th International Conference on Information, Communication and Networks (ICICN 2019)

Macao
24 – 26 April 2019

IEEE Catalog Number: CFP1945M-POD
ISBN: 978-1-7281-0427-0

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: CFP1945M-POD
ISBN (Print-On-Demand): 978-1-7281-0427-0
ISBN (Online): 978-1-7281-0426-3

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

2019 The 7th International Conference on Information, Communication and Networks ICICN 2019

Table of Contents

Preface……vii

Organizing Committees……viii

➢ Wireless Communication

Overview of Pheromone Control Method based on Ant Colony Algorithm in Wireless Communication 1

Yahong Zhai, Zhengtao Xiang

Design of Circular Monopole Antenna using a Ground Plane Modifications for LTE and UWB Applications 6

Nathapat Supreeyatitikul, Suwicha Jantori, Phanuphong Boontamchauy, Usa Torteanchai

Fundamental Phase-matched Second Harmonic Generation from Mid-infrared to Near-infrared 11

Tianye Huang, Guizhen Xu, Jianxing Pan, Zhuo Cheng, Shuwen Zeng, Perry Shum Ping, Gilberto Brambilla

Enhanced Performance of Data Interleaved and Block Hybrid Modulation Bitloading Algorithms in Underwater VLC System 16

Peng Zou, Fangchen Hu, Fumin Wang, Nan Chi

A Wireless Multicarrier Communication Based on Multiple Vector Modulation on Single Optical Carrier 20

Guang Li, Jianqing Li

Research on Physical Downlink Control Channel Transmission Mode for 5G New Radio.....24

Wang Yanwen, Hao Donglai

Nonlinear Characteristic Analysis of Ballistocardiogram Signals Based on Chaotic Time Series...29

Zimin Wang, Lele Xi, Zhenbing Liu, Xiangmeng Lin, Xiru Wu, Xiaonan Luo

The Auto-Focus Method on Scanning Acoustic Microscope Based on Wavelet Analysis.....37
Hao Liang, Jian Xue, Ke Lu
New Investment Strategy Based on the Big Data-Volatility Index Breaking Out Signal Rule 43
Pi-Hsia Yen
Implementation of A Novel M-QAM OFDM Timing Synchronization Method with FSO RoF System 48
Ke Teng, Yangan Zhang, Xueguang Yuan, Qin Liu
Improved MS LDPC Decoder Based on Jacobian Logarithm 53
Ruizhen Wu, Lin Wang, Tao Yuan, Mingming Wang
Design of Double Resonant Coil Ferrite Rod Antenna for RF Energy Harvesting on MF Band 57
Shihua Cao, Keyong Hu

➢ Wireless Networking

Research on Optical Network Model Based on Road Coloring Theory 61
Sen Sun, Yunxiao Zu
A Comparison Research on DSCP Marking' s Impact to the QoS of VoIP-based and SS7-based Phone Calls 66
Shaher Daoud, Yanzhen Qu
Wireless Bluetooth Car Collision Detection System 72
Yuying Wang, Kaixuan Hu, Ya Zhou
Adjustable Minimum Variance Distortionless Restriction Beamforming for Cognitive Radio Networks 77
Jain-Shing Liu, Wan-Ling Chang
A Hybrid Solution for Smart Supermarkets Based on Actuator Networks 82
Yanping Zhang, Zhifeng Xiao, Jianjun Yang, Katerina Wraith, Patrick Mosca
Utilizing Smartphone-Users for MTC Data Offloading in 5G Networks 87
Juma Saidi Ally, Muhammad Asif, Ming Zhao, Sihai Zhang, Wuyang Zhou
A Survey of Mobile Edge Computing in the Industrial Internet 94
Zhuo Li, Xu Zhou, Yifang Qin
A Wifi Positioning Algorithm Based on Deep Learning 99
Yanru Zhong, Zhixiang Yuan, Yiyuan Li, Bing Yang
High-Sensitivity Plasmonics Biosensor Based on Graphene Ribbon Arrays 105
Hongyan Yang, Zhenkai Li, Fang Li, Houquan Liu, Chuanxin Teng, Hongchang Deng, Ronghui Xu, Shijie Deng, Libo Yuan

A New Approach for Detecting Access Control Vulnerabilities 109
Li Ma, Yongjie Yan, Hui Xie

➢ Optical Communications

A Survey on All-Optical IP Convergence Optical Transport Networks 114
Wen-Kang Jia, XueFeng Dong, Yaw-Chung Chen, Feng Chen
A Photon Counting Underwater NOMA Wireless Optical Communication System.....120
Mutian Li, Yueying Xiang
A Method for Equalizing the Impairment in NRZ-QPSK Optical Transmitters 125
Mianzhe Han
Shadow Estimation of Outdoor Environments via Multi-Cue Optimization 130
Ting Gao, Zhihua Chen, Bin Sheng, Ping Li, Daqi Gao
Coherent Optical Sampling Based Method for Monitoring Optical Signal to Noise Ratio of High Speed Optical Fiber Communication Systems.....135
Qingzhao Tan, Ziyi Wang, Aiying Yang, Peng Guo
A 2.5Gb/s Real-time Visible-Light Communication System based on Phosphorescent White LED 140
Chaofan Wang, Guoqiang Li, Yinaer Ha, Siqi Han, Nan Chi
Improved Adaptive Median Filtering for Structured Light Image Denoising 146
Jialin Tang, Yuke Wang, Wei Cao, Juqing Yang

➢ Pattern Recognition and Classification

Copy Detection Pattern-Based Authentication for Printed Documents with Multi-Dimensional Features 150
Pei Zhang, Weiming Zhang, Nenghai Yu
Frame Rate Up-Conversion Based on Edge Information 158
Yunlong Zhao, Guangying Ge, Qun Sun
Improved Clustering Algorithm based on AOW Clustering Algorithm.....163
Zhen Wang, Jianguo Yu, Lan Wang, Zhifang Wang
Parallel Processing of Improved KNN Text Classification Algorithm Based on Hadoop 167
Shaobo Du, Jing Li
Mining Frequent Patterns for ECG Multi-label Data by FP-Growth Algorithm Based on Spark....171
Di Wang, Jing Ge, Lu Wu, Xiaofeng Song

Algorithm and Realization of Robotic end Orientation Equivalent Similarity Transformation Based on Rodrigues 175
Juqing Yang, Qiuji Zhou, Wei Cao, Zhanhao Yi
A Minor Differences Algorithm for Medical Images based on LU Decomposition.....180
Siyi Qian, Yanze Su, Yiqin Qin
A Hybrid Multi-Frame Super-Resolution Algorithm Using Multi-Channel Memristive Pulse Coupled Neural Network and Sparse Coding 185
Zhekang Dong, Songjie Zhang, Bihuan Ma, Donglian Qi, Li Luo, Mengzhe Zhou
A Multi-focus Image-fusion Scheme Based on non-Uniform Triangular Partition 191
Qin Lyu, KinTak U
Low Illumination Image Color Estimation Based on Gray Scale Supervision 196
Zou Muchun, Yao Gaohua
An Improved Pooling Scheme for Convolutional Neural Networks 201
Aiza M. Romano, Alexander A. Hernandez
Initialization Free Segmentation of Complex Shaped Objects 207
Nalan Karunanayake, Stanislav S. Makhanov
Spatio-Temporal Neural Network with Dilated Retrospective Convolution for Short-Time Change Detection 213
Chao Chen, Sheng Zhang
A Data Correlation Algorithm Based on Resnet for Unsteady Data 219
Pu Yuqing, Liu Hao, Chen Shiyou
Study on Distributed Dynamic Average Consensus Algorithm.....225
Yulin Chen, Donglian Qi, Jianliang Zhang, Zhenyu Wang, Zhenming Li
Augmented Reality Tracking Registration Based on Improved KCF Tracking and ORB Feature Detection 230
Wang Yangping, Yong jiu, Zhu Zhengping, Gao Decheng