4th International Conference on Communications, Information Management and Network Security (CIMNS 2016)

Advances in Computer Science Research Volume 47

Shanghai, China
25-26 September 2016

Editors:

B. Shanmugapriya **J. S. Sengar**
K. Weller

ISBN: 978-1-5108-3098-1

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571

Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2016) by Atlantis Press
All rights reserved.
http://www.atlantis-press.com/php/pub.php?publication=cimns-16

Printed by Curran Associates, Inc. (2016)

For permission requests, please contact the publisher:

Atlantis Press
Amsterdam / Paris

Email: contact@atlantis-press.com

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
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

COMMUNICATIONS AND SENSOR NETWORKS

IPv6 Enabled Smart Home Using Arduino 1
Mahesh Patil, Sumathy Subramaniam, Rajendra Hegadi

A Summary of the Application and Research of the Command and Control Organization Theory in Emergency Communication Support 8
Yiwei Ji, Xuejun Ren

Automation Analytical Model of Familial Malware Based on Communication Features 12
Yiyang Wang, Shaoming Chen, Chongbin Wu

Logistics Distribution System Based on Internet of Things 16
Xiaohan Li, Jialiang He

An Intelligent Service System for Outdoor Cycling 19
Huiyan Wang, Jialiang He

Intelligent Charging Query System of Electric Vehicles Based on Internet of Things 22
Qinshan Han, Jialiang He

Design of Low Power and High Linearity Gm-C Low Pass Filters 25
Xiushan Wu, Yanzhi Wang, Qingying Chen, Xingzhou Jiang, Renyuan Tong, Jianqiang Han, Siguang An

Partial Discharge Signal De-noising Method Based on EMD and High Order PDE 29
Ganggang Zhao, Fujiang Mo, Hui Chen, Peipei Wang, Mengsu Xu

Research on Noise FM Jamming Anti Frequency Domain Filtering to GPS M Code Signals 33
Jinglei Guo, Fangling Zeng, Jiawei Wang

A Feature Similarity-Based Multi-Resolution Method for Image Registration 37
Zhihui Wang, Yuzhu Xie, Yuejiao Fan, Wenbo Xu, Qila Sa, Jinlin Li

Modeling the Power Consumption of Multiple Typical Applications Based on Linux 43
Xiaoying Wang, Kunchang Li, Guojing Zhang, Lei Zhang

Optical Layer Modulation Format Conversion in OFDM-Based Flexible Optical Networks 47
Hejun Zhu, Liehuang Zhu

The Broken-Point Continuingly-Transferring Design Based on Satellite Network 51
Jianmin Mei, Guiqiang Ni, Jinsong Jiang, Yingzi Yan, Qing Liu, Junxian Long

Assessment of Rehabilitative Effects of Motion Sensing Game on Mentally Retarded Children 55
Hanxue Xu, Zhenjun Li, Xiaowei Chen, Jiahao Wu, Yun Xu

The Design and Implementation of High Precision and Low Power Wireless Temperature Sensor 59
Yanping Wang, Hanxi Li, Yuchen Wang, Huan Le

Low Density Parity Check Coding in OFDM-PON Systems 62
Chunlei Zhang, Xiao Xiao, Kai Zhao, Xunfa Yang

Joint PAPR Reduction Scheme in OFDM-PON Systems 66
Chunlei Zhang, Kai Zhao, Xunfa Yang

Body Falling Gesture Recognition Based on SOM and Triaxial Acceleration Information 70
Hongbo Chen, Qing Gao, Tao Feng, Yu Liu, Xinhua Xiao

Voice Analysis of the "White Peony Tune" of Linxia Huar Based on Acoustics 74
Yanbing Ding

Design and Simulation of Digital down Converter Based on System Generator 77
Fengling Zuo, Jietao Diao, Zhaolin Sun, Nan Li

The Impact Analysis of High Speed Railway on City Accessibility in Henan Province 80
Kaiguang Zhang, Mingting Ba, Hongling Meng

Agent Based Cucumber Plant Climbing Characteristic Simulation 85
Jing Xu, Teng Miao, Kai Song, Lin Gao, Ying Cui

Anomaly Diagnosis Analysis for Running Meter Based on BP Neural Network 90
Zhengye Wang, Gangjun Gong, Yafeng Wen

Construction and Application of the Operational Plan Ontology Model 93
Fei Long, Xiaozhe Zhao, Xinglin Liu

INFORMATION MANAGEMENT AND NETWORK SECURITY

A Study of Behavior Intention of Runners' Virtual Community - The Case of Marathon's World Website 97
Hsin-Ke Lu, Peng-Chun Lin, Chi-An Li

Discussion on Safety Planning of Information Campus 103
Wei Li, Jianfeng Xiong

A Novel Situation Assessment Model Based on Connection Potential 106
Yan Wang

Verification and Detection of a Wireless-Leakage Hardware Trojan Horse with Covert Channels 111
Yancang Chen, Ying Zhou, Pei Wei, Sai Sui, Yaxin Zhao, Minlei Zhang, Lunguo Xie

Security Middleware Framework of Classified Application System 115
Yizheng Tao, Xinglan Li, Shan Gao, Gongliang Li

Design and Implementation of a High Performance Network Scanning System for Vxworks Hosts 119
Minlei Zhang, Yancang Chen, Huan Chen, Yaxin Zhao, Pei Wei, Sai Sui

Design of Bicman Speed Based on C51 Microcontroller 123
Yang Zhan

The Study of College English Teaching in Internet Plus Era 126
Wencao Sun

Smart Tourism via Smart Phone 129
Pu Liu, Yuan Liu

Nakagami-K Composite Channel Model in Urban-Rural Conjunction Areas 133
Xin Hu, Qing Luo, Weinong Wu, Wenjiang Feng

Vulnerability Analysis for Complex Networks under the Shortest Path-Attack Strategies 138
Yaohui Hao, Jihong Han, Qinghua Cheng, Yongjin Hu

Trajectory Prediction Based on the Notion of Time and the Influence of Location of Historical Time Step 142
Fangxin Liu, Ming He, Yong Liu, Huan Zhou, Qiuli Chen

Three-Dimensional Modeling Technology of Virtual Plant in Digital Landscape 146
Pu Liu, Yuan Liu, Xiaosheng Xu

Three-Dimensional Target Tracking Based on Velocity Pursuit 150
Shulin Feng, Bo Yin

Doctoral Innovation Ability and Innovation Performance Evaluation Model 155
Caiyun Sun, Xiaojiang Yang, Jianjun Zhai

Architecture for Personalized Service System of Logistics Business Information 158
Qi Zhang, Faheng Wu, Xiaogen Su, Jianxin Deng

A Method of Constructing Virtual Network Based on NFV 163
Xiaomei Tao, Ming Chen, Xiulei Wang, Guomin Zhang, Qiao Yan

Research on the Development Technology of Cross Platform Hybrid Mobile Application Based on HTML5 168
Qiao Yan, Guyu Hu, Guiqiang Ni, Jinsong Jiang, Junxian Long

Modeling the Steady State Throughput of SCPS-TP 172
Feng Liu, Shilong Liu

An Optimized Scheme to Resist Primary User Emulation Attacks 176
Jie Xiao, Yuebin Chen, Chuanxi Xing, Jiangfeng Yang, Zhenling Yang

Improved Reputation of Soft Fusion Based on Cooperative Spectrum Sensing Defence SSDF Attacks 181
Zhenling Yang, Yuebin Chen, Chuanxi Xing, Jiangfeng Yang, Ting Zheng

Research on Incremental Updating 186
Guiqiang Ni, Yingzi Yan, Jinsong Jiang, Jianmin Mei, Zhilong Chen, Junxian Long

Research on Teaching Evaluation Model of Public Security Information Management Course 190
Liang Hu

Dynamic Trust Relationship Quantization Model Based on Multiple Attribute Decision 193
Minsheng Tan, Miao Guo, Ting Xiang, Hui Zhao, Chencheng Wang

Mobile Game Design Based on Classic Cartoon 198
Yingfang Zhang, Siyang Lu, Yinglu Tang

Application of IOT in the Supply Chain of the Fresh Agricultural Products 201
Liheng Zhang

Effective Scheme for Global Abnormal Event Detection for Surveillance Video 205
Fangxu Dong, Dong Hu

The Space-Time Evolution Rules of Plastic Failure Zone in Surrounding Rock of Stope Roof with Variable Length 210
Xinfeng Wang, Longqin Li, Jiaqing Wu

Translation Studies in the Frame of Blending 214
Chunmei Tong
Adjective Roles in Estimating a Product Rating in a Product Review 217
Patrawadee Tanawongsuwan

INTELLIGENCE ALGORITHM AND DATA MINING

The Study on Lucene Based IETM Information Retrieval 221
Jiaju Wu, Zhenji Liu, Xinglin Zhu, Rong Yu
New Data Clustering Algorithm Combined of Ant Colony Algorithm and Improved Fuzzy C-Means Algorithm 225
Zhiming Zhang, Guobin Wu, Jie Luo
Improved MP3 Hiding Algorithm Based on Huffman Coding 230
Jun Ao, Rui Li, Chunbo Ma
Implementation of a Parallel Prefix Adder Based on Kogge-Stone Tree 234
Yancang Chen, Minlei Zhang, Pei Wei, Sai Sui, Yaxin Zhao, Lunguo Xie
Research on Interpolation Method of Random Hopped-Frequency in Synthetic Wideband Imaging 238
Junqun Liu, Dawei Lu, Jun Zhang
Research and Implementation of Plotting Based on MapX TrueType Font Symbol 242
Yongzhen Qin, Quanxing Miao, Renyuan Hu, Hu Zhao
An Improved Apriori Preserving Differential Privacy in the Framework of Spark 245
Zhiqiang Gao, Longjun Zhang, Renyuan Hu, Qingpeng Li, Jihua Yang
Research on the Application of Data Mining Technology in Teaching Effect Analysis 248
Lei Che
A Frequent Itemsets Data Mining Algorithm Based on Differential Privacy 251
Qingpeng Li, Longjun Zhang, Haoyu Li, Wenjun Sun
An Extracting Method of 2D Property Line for House Property 254
Yunfei Shi, Lingling Zhang
A Sound Source Tracking Method of Distributed Microphone Array 258
Huannan Lin, Yiwen Zhang
Privacy Protection Method on Publishing Dynamic Set-Valued Data 262
Jian Zhang, Yu Yang
UAV 3D Mobility Model Based on Density Change Product 266
Rui Wang, Nan Di, Na Wang, Fangxin Liu, Qiuli Chen
The Application of Design Structure Matrix Optimization Method Based on Genetic Algorithm 271
Lefeng Sun, Jing An, Hongmiao Yu
Spaced-Based Multi-Sensor Maneuvering Group Targets Refined Tracking Algorithm 274
Haipeng Wang, Xueyuan Lin, Tiantian Tang, Shuyi Jia
Research and Application of Collaborative Filtering Algorithm Based on Hadoop 279
Ailing Duan, Zhixia Xu, Qiongbo Duan
Community Detection in Complex Networks Using Improved Artificial Bee Colony Algorithm 283
Ziyang Wang, Xiaolin Zhao, Peiyuan Wen, Jingfeng Xue, Changzhen Hu
A Novel Two-Stage PCA Algorithm for Object Tracking 289
Yuanyuan Yang, Dong Hu
An Improved Community Detection Algorithm Based on DCT and K-Means 293
Lin Li, Kefeng Fan, Jiezhong Gong, Hao Peng
A Joint PIC/Decoding Algorithm for Convolutionally Coded CDMA Systems 298
Guoxiong Xu, Feng Ji
Hardware Implementation of Radio Signals Fast Digital Detection and Demodulation Algorithms 303
Oleg Vyacheslavovich Chernoyarov, Alexey Nikolaevich Glushkov, Vladimir Petrovich Litvinenko, Boris Vasilyevich Matveev, Konstantin Sergeevich Kalashnikov
The Application of Big Data Analysis Techniques and Tools in Intelligence Research 307
Mengru Li, Hong Fu, Ruodan Sun, Che Che
On the Second Descent Points for the K-Error Linear Complexity of 2^n-Periodic Binary Sequences 311
Jianqin Zhou, Xifeng Wang, Wanquan Liu
An Enhanced Map-Based Location Service for VANET 315
Deling Huang, Chang Su, Yusong Yan
Research on Text Classification Based on TextRank 319
Guangming Lu, Yule Xia, Jiamei Wang, Zhenling Yang
A Disordered Multiple Group Signature Scheme Based on Discrete Logarithm 323
Hua Huang

An Improved Cluster Routing Structure of IOT 326
Zhihui Wang, Ruokun Wu, Qila Sa, Jinlin Li, Yuejiao Fan, Wenbo Xu, Yiqun Zhao
Effect of DNA Physical Characteristics to Drosophila Nucleosome Positioning 329
Zehua Li, Jihua Feng, Xiaowen Zhou, Huazheng Yu, Jing Chen
New Parallel Interference Cancellation for Coded MC-DS-CDMA 333
Guoxiong Xu, Feng Ji

CLOUD COMPUTING AND CLOUD SECURITY

Factor Analysis on Enterprises Adopting Cloud Computing 337
Hsin-Pin Fu, Tien-Hsiang Chang, Tsung-Sheng Chang, Li-Chun Liu
Ciphertext Query Method Based on Multi-Attribute Keywords 341
Haoyu Li, Longjun Zhang, Qingpeng Li, Zhiqiang Gao
The Construction of Power Cloud Integrated with Heterogeneous Application Service Systems 345
Ling Zheng, Jiangang Yao
Improved Fully Homomorphic Encryption Algorithm for Cloud Storage 349
Renyuan Hu, Longjun Zhang, Yongzhen Qin
Research on Construction of E-Government Cloud under the Background of Internet Plus 353
Wei Wang, Bo Liu, Gang Li
Cloud Data Life Cycle Security Issues and Research of Encryption Technology 356
Nengneng Li, Yongsheng Zhang, Yueqin Fan, Liang Chang
Browser Identification Based on Encrypted Traffic 360
Changjiang Liu, Jiesi Han, Qiang Wei
Author Index