message from the CIT 2012 general chairs .................................................................xxi
message from the CIT 2012 program chairs .................................................................xxii
message from the CIT 2012 steering chairs .................................................................xxiii
message from the CIT 2012 workshop/symposium chairs ............................................xxiv
CIT 2012 organizing and program committees ............................................................xxv
message from the ISACC 2012 symposium chairs .....................................................xxix
ISACC 2012 organizing and program committees ......................................................xxx
message from the ISDS 2012 symposium chairs .......................................................xxxi
ISDS 2012 organizing and program committees .........................................................xxxii
message from the M2MC 2012 workshop chairs ........................................................xxxiii
M2MC 2012 organizing and program committees ......................................................xxxiv
message from the UUMA 2012 workshop chairs .....................................................xxxv
UUMA 2012 organizing and program committees .....................................................xxxvi
messages from the MSMN 2012 workshop chairs ....................................................xxxvii
MSMN 2012 organizing and program committees .....................................................xxxviii
message from the UMES 2012 workshop chairs ......................................................xxxix
UMES 2012 organizing and program committees .....................................................xl
message from the CRNs 2012 workshop chairs ........................................................xl
CRNs 2012 organizing and program committees .......................................................xlii
keynote speeches ...........................................................................................................xliii
invited speeches ............................................................................................................xlv

CIT-01: Information Technology I
Adaptive Information Brokerage in Wireless Sensor Networks with Mobile Sinks ..................1
Xingpo Ma and Yuerong Xue
Adaptive Pixel Encoding: An Effective Algorithm for Frame Buffer Compression ..................5
Yifu Li, Yifei Jiang, and Haibo Meng
Frame Buffer Compression without Color Information Loss ................................................................. 12
   Yifei Jiang, Yifu Li, Dongsong Ban, and Yuanchao Xu

Community Detection Using Label Propagation in Entropic Order .................................................. 18
   Yuxin Zhao, Shenghong Li, and Xiuzhen Chen

CIT-02: Information Technology II

Runtime Support for Type-Safe and Context-Based Behavior Adaptation ........................................... 25
   Yinliang Zhao, Changpeng Zhu, Bo Han, and Qinghua Zeng

A Highly Scalable Butterfly-Based Photonic Network-on-Chip ............................................................. 33
   Junhui Wang, Baoliang Li, Quanyou Feng, and Wenhua Dou

Research of Network Vulnerability Analysis Based on Attack Capability Transfer .............................. 38
   Yong Wang, Xiaochun Yun, Yongzheng Zhang, Shuyuan Jin, and Yanchen Qiao

Scale-Adaptive Feature Points Extraction and Dual-Scale Based High-Precision Image Registration .......................................................... 45
   Zunqi Gao, Delie Ming, Liping Xiao, and Hai Wang

Exploring Power-Efficient Provisioning for Online Virtual Network Requests ..................................... 51
   Gang Sun, Hongfang Yu, Vishal Anand, Dan Liao, and Lemin Li

CIT-03: Information Technology III

Improved Particle Implementation of the Probability Hypothesis Density Filter in Resampling ..................... 56
   Xu Tang, Jian Zhou, Jian Huang, and Ping Wei

Traffic Measurement Based DNSSEC Analysis .................................................................................... 62
   Yong Wang, Xiaochun Yun, Yao Yao, Gang Xiong, and Zhen Li

A Wireless Unicast Retransmission Mechanism with Network Coding .............................................. 70
   Jun Zhang, Rui Zhang, Guoliang Ding, and Bofeng Zhang

An Efficient Mechanism for Querying Offline Map Database on Smartphones .................................... 76
   Anhua Lin, Jianzhong Zhang, Yu Zhang, Zhicheng Wang, and Gang Yu

CIT-04: Information Technology IV

A Hybrid Technique Based Query Tree Protocol for Energy Efficiency in RFID System .................................. 82
   Haosong Gou, Jihoon Yang, and Younghwan Yoo

Breaking and Repairing of an Anonymous and Traceable Communication Protocol for Vehicular Ad Hoc Networks .................................................. 88
   Jianhong Zhang and Yuwei Xu

Visual Simulation of Techniques and Effects of Thinning of Chinese Fir Plantations with Different Planting Densities ................................................................. 94
   Yongliang Li, Huaiqing Zhang, Xian Jiang, Hai Liu, Ning Zhang, and Yilong Kuang

Joint Source-Channel Rate-Distortion Optimization Algorithm for Multiview Video Coding .......................... 101
   Qingming Zhang
Multi-attribute Group Decision Making Based on Biased Information Sampling
Model and Generalized Trapezoidal Fuzzy Numbers ............................................................. 109
  Xiang Yu, Zou Ping, and Ma Li

Syntactic Representation Transformation in Operator Design Method Based
on ANTLR Tool .................................................................................................................. 115
  Yueming Zhao, Teng Wang, Xiaoyu Ni, Xin'an Wang, and Zheng Xie

CIT-05: Information Technology V
System-Level Power Estimation with On-Chip Bus Performance Monitoring Units
in PKU-DSPII SoC ............................................................................................................... 119
  Xiaoyu Ni, Teng Wang, Yueming Zhao, Xindong Su, and Xin'an Wang

A Novel Hybrid Algorithm for Big Resource Allocation Problems ..................................... 124
  Hong Li Yin, Yong Ming Wang, and Guang Zhou Zhao

Establishment and Application for a Mobile Learning Communities System: A
Case Study of Digital Archives Resource into Outdoor Environmental Education .............. 129
  Shih-Yeh Chen, Ying-Xun Lai, Yueh-Min Huang, Cheng-Feng Kao, and Chin-Feng Lai

Channel Equalization Using a Robust Recursive Least-Squares Adaptive-Filtering
Algorithm ......................................................................................................................... 135
  Yang Wang

CIT-06: Computer Science I
Development and Evaluation of Visualization Tools for Understanding the Control
Method of TCP Packet Arrival Order and the Difference between TCP and UDP .............. 139
  Shogo Takahashi and Masayuki Arai

An Enhanced Fourth-Order PDE Model Based on Laplacian and Gradient Operator ........ 144
  Junhai Zhang, Liangchao Li, and Jianyu Yang

A Hybrid Matchmaking Algorithm for Semantic Web Service ............................................ 147
  Yichao Yang, Wenfeng Zheng, Shan Liu, and Xiaolu Li

Survey of Manycast Routing Algorithms and Protocols .................................................... 152
  Tan Xuegong

Parallelization Methods for Edge Extraction Applied to Chip Multiprocessor
Clusters .............................................................................................................................. 156
  Guo Cheng, Luo Chen, Qiuyun Wu, and Ning Jing

Multicast Deployment of Cloud Operating Systems .......................................................... 163
  Kuen-Min Lee, Wei-Guang Teng, Jin-Neng Wu, Kuo-Ming Huang, Yao-Hsing Ko,
  and Ting-Wei Hou

CIT-07: Computer Science II
A Study on Real-Time Scheduling for Low-Power Sensor Node Platforms ...................... 169
  Sungwoo Tak, Heekyung Kim, and Taehoon Kim
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Cloud Computing Resource Scheduling Policy Based on Genetic Algorithm with Multiple Fitness</td>
<td>177</td>
</tr>
<tr>
<td>Shi Chen, Jie Wu, and Zhihui Lu</td>
<td></td>
</tr>
<tr>
<td>G3MBench: A Graph-Based Benchmark Suite for Memory Management on Microcontrollers</td>
<td>185</td>
</tr>
<tr>
<td>Li Fuyang, Yuan Mengting, and Chen Yong</td>
<td></td>
</tr>
<tr>
<td>Three-Operand Floating-Point Adder</td>
<td>192</td>
</tr>
<tr>
<td>Yao Tao, Gao Deyuan, Fan Xiaoya, and Ren Xianglong</td>
<td></td>
</tr>
<tr>
<td>An Energy-Efficient Data Gathering Protocol for Delay Tolerant Mobile Sensor Networks</td>
<td>197</td>
</tr>
<tr>
<td>Yong Feng, Qian Qian, Feng Wang, and Hui Deng</td>
<td></td>
</tr>
<tr>
<td>Centrality Indices Computation in Dynamic Networks</td>
<td>202</td>
</tr>
<tr>
<td>Tatiana Tabirca, Sabin Tabirca, and Lawrence T. Yang</td>
<td></td>
</tr>
<tr>
<td><strong>CIT-08: Computer Science III</strong></td>
<td></td>
</tr>
<tr>
<td>An Efficient Quality Assessment Metric for 3D Video</td>
<td>209</td>
</tr>
<tr>
<td>Chao Sun, Xingang Liu, Xiangbin Xu, and Wenjie Yang</td>
<td></td>
</tr>
<tr>
<td>Finger Tracking and Gesture Recognition with Kinect</td>
<td>214</td>
</tr>
<tr>
<td>Tao Hongyong and Yu Youling</td>
<td></td>
</tr>
<tr>
<td>Replica Pre-adjustment Strategy Based on Trend Analysis of File Popularity within Cloud Environment</td>
<td>219</td>
</tr>
<tr>
<td>Shaochun Wu, Gaozhao Chen, Tiegang Gao, Lingyu Xu, and Cuicui Song</td>
<td></td>
</tr>
<tr>
<td>Probabilistic Scheduling Based on Queueing Model for Multi-user Network Applications</td>
<td>224</td>
</tr>
<tr>
<td>Zheng Xiao, Zhao Tong, and Kenli Li</td>
<td></td>
</tr>
<tr>
<td>A QoS-aware Computation Model for Dynamic Web Service Selection</td>
<td>230</td>
</tr>
<tr>
<td>Jinfang Zhang, Farong Zhong, Zhenguo Yang, and Huan Liu</td>
<td></td>
</tr>
<tr>
<td>Vtrim: A Performance Optimization Mechanism for SSD in Virtualized Environment</td>
<td>236</td>
</tr>
<tr>
<td>Xiaofei Liao, Jia Yu, and Hai Jin</td>
<td></td>
</tr>
<tr>
<td><strong>CIT-09: Signal Processing I</strong></td>
<td></td>
</tr>
<tr>
<td>Analysis of Unitary Distributed Spatial-Temporal Precoding in MIMO Relay Systems</td>
<td>243</td>
</tr>
<tr>
<td>Hang Long, Wei Xiang, Yueying Zhang, Jing Wang, and Bin Wu</td>
<td></td>
</tr>
<tr>
<td>A Rotating Blind Separation Algorithm Suitable for MIMO-STBC Systems without Precoder</td>
<td>249</td>
</tr>
<tr>
<td>Minggang Luo and Liping Li</td>
<td></td>
</tr>
<tr>
<td>Novel Iterative Channel Estimation Method for DTMB System</td>
<td>254</td>
</tr>
<tr>
<td>You Lu, Chengyong Wu, and Guanghui Liu</td>
<td></td>
</tr>
</tbody>
</table>
An Innovative Cache-Based Streaming System for MPEG-4 Scalable to Lossless Audio ........................................................................................................................................................................................................................................258
   Jianping Chen and Dajun Wu

Texture Compression with Variable Data Formats ........................................................................................................................................................................................................................................264
   Yifei Jiang, Mindan Gui, Dongdong Lu, and Yuanchao Xu

CIT-10: Signal Processing II
A Blind Modulation Recognition Algorithm Suitable for MIMO-STBC Systems ........................................................................................................................................................................................................................................271
   Minggang Luo, Liping Li, and Bin Tang

Effectiveness of the Wideband Minimum Variance Direction Finding Method in Nonuniform Noise ........................................................................................................................................................................................................................................277
   Fei Wen, Qun Wan, and Jiyan Huang

Blind Estimation of Communication Emitter Feature Parameters ........................................................................................................................................................................................................................................281
   Jia Yong-qiang, Li Li-Ping, Li You-Zhu, and Gan Lu

The Application of Particle Swarm Optimization Algorithm in the Extremum Optimization of Nonlinear Function ........................................................................................................................................................................................................................................286
   Jin Yue Liu and Bao Ling Zhu

Performance and Analysis on LTE System under Adjacent Channel Interference of Broadcasting System ........................................................................................................................................................................................................................................290
   Wei Li, Jiadi Chen, Hang Long, and Bin Wu

Improved Motion Vector Recovery in Temporal Error Concealment for H.264/AVC Decoder ........................................................................................................................................................................................................................................295
   Wenjie Yang, Xingang Liu, and Chao Sun

CIT-11: CPS and Internet of Things
Enforcing Memory Safety for Sensor Node Programs ........................................................................................................................................................................................................................................300
   Nan Lin, Yabo Dong, Dongming Lu, and Jie He

Space-Time Registration for Physical-Cyber World Mapping in Internet of Things ........................................................................................................................................................................................................................................307
   Huansheng Ning, Wei He, Sha Hu, and Binhui Wang

Information Perception and Intelligent Management for Electric Vehicle Charging-Swap Networks with the Internet of Things ........................................................................................................................................................................................................................................311
   Dequan Gao, Yiying Zhang, and Xiangzhen Li

Access Control Method for Web of Things Based on Role and SNS ........................................................................................................................................................................................................................................316
   Jia Jindou, Qiu Xiaofeng, and Cheng Cheng

RC4-BHF: An Improved RC4-Based Hash Function ........................................................................................................................................................................................................................................322
   Qian Yu, Chang N. Zhang, Mohammad Ali Orumiehchiha, and Hua Li

Civil UAV Path Planning Algorithm for Considering Connection with Cellular Data Network ........................................................................................................................................................................................................................................327
   Ting-Yun Chi, Yi Ming, Tseng, Sy-Yen Kuo, and Chih-Chiu Liao
CIT-12: Reliability, Security, Privacy and Trust I
Cryptographically Generated Addresses (CGAs): Possible Attacks and Proposed Mitigation Approaches .................................................................332
Ahmad Alsa’deh, Hosnieh Rafiee, and Christoph Meinel
A DoS Attack Situation Visualization Method Based on Parallel Coordinates .................................................................340
Ying-Jie Yang and Yu-Hua Liu
Improvement of a Flow Classification Algorithm with Less Memory Consume .................................................................345
Hou Zhengfeng, Li Can, and Hu Donghui
A New Method of Trust Inference Based on Markov Model for Peer-to-Peer Network .................................................................349
Guangming Yang, Liangyu Zhang, Zhenhua Tan, Hainan Yu, and Shuang Li
Research on Excellent p^n-periodic Binary Sequence with Genetic Algorithm .................................................................355
Zhihua Niu, Zhe Li, Mingjun Xin, and Danfeng Guo

CIT-13: Reliability, Security, Privacy and Trust II
Principle Features for Tie Strength Estimation in Micro-blog Social Network .................................................................359
Yaxi He, Chunhong Zhang, and Yang Ji
Reliability Analysis of Task Model in Real-Time Fault-Tolerant Systems .................................................................368
Shenglin Gui and Lei Luo
Analysis on the Effect of Prefix Hijacking Attack and Internet Hierarchy .................................................................375
Jinjing Zhao and Yan Wen
Formal Verification of Communicating HSTM Designs .................................................................................................383
Leyuan Liu, Weiqiang Kong, Shijie Zhou, Zhiguang Qin, and Akira Fukuda
PIM: A Policy-Based Incentive Mechanism for Promoting Honest Recommendations in Reputation Systems .................................391
Junsheng Chang, Weixia Xu, Zhengbin Pang, Jun Zhang, Gang Yin

CIT-14: Applications, Business and Social Issues
AMVP-Cloud: A Framework of Adaptive Mobile Video Streaming and User Behavior Oriented Video Pre-fetching in the Clouds ........................................398
Bin Pan, Xiaofei Wang, Chung-Pyo Hong, and Shin-Dug Kim
Memory Pre-synchronization Technology for Application Migration ........................................................................406
Tang Haojun, Wang Huixiang, Xiaolin, Ruan Li, and Zhou Yuanhao
Model and Solution for Hot Strip Rolling Scheduling Problem Based on Constraint Programming Method .................................412
Xiaofan Zhang, Zhimin Lv, and Xiaoqing Song
A Location-Price-Based Buyer Coalition .........................................................................................................................416
Santit Narabin and Veera Boonjing
CIT-15: Database and Data Mining

Semi-supervised Ensemble Learning Using Label Propagation .................................................. 421
Hoyoung Woo and Cheong Hee Park

A Similarity-Oriented RDF Graph Matching Algorithm for Ranking Linked Data ...................... 427
Dehai Zhang, Tianlong Song, Jun He, Xingwei Shi, and Yan Dong

User-Centric Integrated Recommendation by Gradual Adaptation Based on Focus of Interests and Its Transition ................................................................. 435
Jian Chen, Xiaokang Zhou, and Qun Jin

Mining Association Rules on Qing Court Medical Records: Semantic Abstraction and Standardization ......................................................................................................................... 442
Cong Cao, Weimin Wang, Cungen Cao, and Liangjun Zang

Unified Approach for Computing Document Similarity with Fingerprinting and Alignments ........ 448
Jongkyu Seo, Chang-Seok Ock, and Hwan-Gue Cho

A New String Search Tree with Multiple Alignment ...................................................................... 456
Sung-Hwan Kim, Kwanghwi Kim, and Hwan-Gue Cho

CIT-16: Microwave and Radar I

A Method of Target Tracking in Doppler Blind Zone Based on Multiple-Hypothesis Motion Model ................................................................. 464
Wei Han, Ziyue Tang, and Zhenbo Zhu

Application of FRFT in the Detection and Parameter Estimation of Accelerating Weak Targets ................................................................................................................................. 470
Lixiao Zhan, Ziyue Tang, and Zhenbo Zhu

A Touch Sensor Controller IC Adopting Differential Measurement for Projected Capacitive Touch Panel Systems .............................................................................................................. 477
Siwei Zhan, Tingcun Wei, Bo Li, Wei Liu, and Qimeng Chen

Ground Target Filtering Method Based on Doppler Features ..................................................... 482
Wei Han, Ziyue Tang, and Zhenbo Zhu

CLEAN Based Blind Speed Side Lobe (BSSL) Suppression in the Radon Fourier Transform (RFT) for Multi-target Detection ................................................................................................. 490
Lichang Qian, Jia Xu, Wenfeng Sun, and Yingning Peng

Design and Implementation of High-Performance Embedded Numerical Control System .............. 496
Xiaohu Lu, Dong Yu, Yi Hu, Xiaobo Jia, and Qiang Feng
CIT-17: Microwave and Radar II

Individual Radio Frequency Interference Identification on VHF Radar Based on SVM Classifier .................................................................500
  Ligang Huang, Jia Xu, and Lichang Qian

A Study on Accurate Same Beam Interferometry Differential Phase Delay Closure .................................................................506
  Shaowu Chen, Guangliang Dong, Haitao Li, Qinghui Liu, Xin Zheng, and Guanlei Chen

Efficient Approach of Generalized RFT Based on PSO .................................................................511
  Lichang Qian, Jia Xu, Wenfeng Sun, and Yingning Peng

Extraction of Key Papers Based on the PageRank Algorithm Using Variance
Values of Cited Literature as Weighting ......................................................................................517
  Akira Otsuki

CIT-18: System Software and Software Engineering

Six Sigma in IT Processes, IT Services and IT Products: A Fact or a Fad? Six Sigma beyond Manufacturing in IT Processes, IT Services and IT Products .................................................524
  Whee Yen Wong, Chan Wai Lee, and Kim Yeow Tshai

Application of Mobile Cloud Computing in Operational Command Training
Simulation System ..........................................................................................................................532
  Peng Hu, Jianjing Shen, and Shenglin Fang

Material Removal Simulation of Multi-axis NC Milling Based on Spatial Partitioning Level of Detail Model ..................................................................................................................536
  Hongliang Wang, Ruifeng Guo, Xian Liu, Xiaoahu Lu, and Yillin Zheng

A Game Theoretic Schema for Overcoming Selfish Allocation in P2P File
Application ..................................................................................................................................541
  Fang Zuo and Wei Zhang

Libvmi: A Library for Bridging the Semantic Gap between Guest OS and VMM ...............................................................549
  Haiquan Xiong, Zhiyong Liu, Weizhi Xu, and Shuai Jiao

CIT-19: Pattern Recognition and Artificial Intelligence I

Variance-Based Gaussian Kernel Fuzzy Vector Quantization for Emotion
Recognition with Short Speech ........................................................................................................557
  Jie Huang, Wanlin Yang, and Daiying Zhou

Pedestrian Detection Embedded in Level-Set-Based Moving Objects Detection and Tracking ........................................................................561
  Wei-Gang Chen

The Infinite Hidden Markov Random Field Model Based on Student's t-Distribution ...........................................................................567
  Taisong Xiong and Zhang Yi
CIT-20: Pattern Recognition and Artificial Intelligence II

Detection of Neonatal Amplitude-Integrated EEG Based on Revised D-S Theory ..................................................575
Su Yang, Weiting Chen, Yang Liu, Lei Li, and Zhizhong Wang

A Mean Shift-Based Initialization Method for K-means .................................................................579
Iván Cabria and Iker Gondra

Genetic Algorithm with Parameters Optimization Mechanism for Hard Scheduling Problems .........................................................587
Hong Li Yin and Yong Ming Wang

Arabic Writer Identification and Verification Using Template Matching Analysis of Texture ..................................................592
Mohamed Nidhal Abdi and Maher Khemakhem

CIT-21: Wireless Communications I

An Improved Clipping Scheme Based on TR for PAPR Reduction in OFDM Systems ..........................................................598
Chengyong Wu, You Lu, and Guanghui Liu

Bluetooth Virtual Community: Bluetooth and Social Networking in Tehran Subway ........................................602
Esmaeel Ramezani and Saeed Reza Ameli

Research of Congestion in Ad Hoc Networks Based on Cross-Layer Cooperative Processing ..................................................610
Chun-Sheng Cui, Yong-Jian Yang, and Xiang Li

WQLB: WiMAX QoS Aware Load Balancing Protocol .................................................................615
Camellia Askarian Amiri and Shahin Mahdizadeh Aghdam

CIT-22: Wireless Communications II

A Simplified Channel Estimation Method Based on Optimal Pilots Design for MIMO-OFDM Systems ..........................................................623
Hailang He and Ying Zeng

Semiblind Channel Estimation and Symbol Detection for Block Transmission Using Superimposed Training ..........................................................627
Chunquan He, Gaoming Huang, Jun Gao, Gaoqi Dou, and Wenwei Ying

A Novel Adaptive Receiver for Flat Fading Channels with Impulsive Noise ..........................................................631
Wenwei Ying, Yuzhong Jiang, Yueliang Liu, and Chunquan He

A Survey on Social-Based Routing and Forwarding Protocols in Opportunistic Networks ..........................................................635
Li Liu and Yanfang Jing

Local Cloud Storage: Temporal Local File Sharing with Previously Paired Wireless Memories and Cross-Layer Simultaneous Data Transmission Mechanism ..........................................................640
Yutaka Arakawa, Yuta Tanaka, Shigeaki Tagashira, and Akira Fukuda
CIT-23: Wireless Communications III

Searching for Optimal Deletion Correcting Codes: New Properties and Extensions of Tenengolts Codes .................................................................647

Zhiyuan Li and Sheridan Houghten

Complex Coefficient Interpolation Based Channel Estimation for OFDM in Single-Frequency Networks .................................................................655

Guanghui Liu, Liaoyuan Zeng, Hongliang Li, and Zhengning Wang

Analysis of Adjacent Channel Interference from IMT-A System to Broadcasting System in China ...............................................................661

Jiadi Chen, Yuyan Zhang, Wei Li, and Hang Long

A Geographic Location Based Reliable Data Transmission Protocol for Wireless Sensor Networks ..............................................................666

Haosong Gou and Younghwan Yoo

Dynamic Routing-Tree Based Data Forwarding Scheme for Urban Vehicular Ad Hoc Networks ..............................................................672

Changqing Liu, Jinsheng Yang, and Shih-Lin Wu

CIT-24: Mobile Multimedia Communications I

A Mobile-Sink Based Energy-Efficient Clustering Algorithm for Wireless Sensor Networks ..................................................................................678

Jin Wang, Yue Yin, Jeong-Uk Kim, Sungyoung Lee, and Chin-Feng Lai

Network Coding-Based Rate Allocation and Bursty Loss Protection for Video Streaming over Wireless Multi-hop Networks ........................................684

Huali Cui, Depei Qian, Xingjun Zhang, Yuxing Wu, and Li Wang

A Novel Total Variation Measurement Based Intra Frame Rate Control for H.264/AVC ..............................................................................690

Yadong Wu, Yu Sun, Zhidan Feng, and Hongying Zhang

Transmit Beamforming Interpolation Algorithm for MIMO-OFDM Systems in the Limited Feedback Scenario .................................................696

Hailang He and Ying Zeng

Modeling and Performance Analysis of Network on Chip Based on Improved Asymmetric Multi-channel Router ..................................................................700

Xianglong Ren, Deyuan Gao, Xiaoya Fan, Jianfeng An, and Tao Yao

CIT-25: Mobile Multimedia Communications II

How to Exploit Marker Orientation for SIFT Image Matching .................................................................706

Gyeon-Mi Park, Hae-Lyen Hwang, and Hwan-Gue Cho

Synchronization Method for Stereoscopic 3D Video Broadcasting through Heterogeneous Network ........................................................................714

Kideok Kwon, Hyeonjun Jeong, Younghwan Yoo, Ryulsung Kim, Gwangsoon Lee, Won-Sik Cheong, and Namho Hur
Advanced Service Models to Enhance QoE in Mobile Broadcasting
Communication System .......................... 722
Hyeonjun Jeong, Kideok Kwon, Seongin Park, and Younghwan Yoo

Improved SVM Method Applied to the Online User Behavior Analysis .......................... 728
Lin Zuo

ISACC-01
A Trust Model Composed of Multi-trust Path in Online Auction ............................................. 733
Wenjia Wang and Dingwei Wang
A New Method of Vulnerability Taxonomy Based on Information Security Attributes .......................................................... 739
Zhongwen Zhao and Yingchun Dai
An Improved Wireless Sensor Networks Routing Protocol Based on AODV .......................... 742
Shuangyin Ren, Huanmin Han, Baoliang Li, Jia Lu, Cgao Peng, and Wenhua Dou
Airport Runway FOD Detection Based on LFMCW Radar Using Interpolated FFT and CLEAN .......................................................... 747
Zhong Qi, Zhang Zhongjin, Yan Danqing, Jin Erwen, and Yu Xuelian

ISACC-02
Research of Free Resource Rectangles Management on FPGA Area Based on CPTR .......................... 751
Chai Yahui, Shen Wenfeng, Zhang Shenghui, and Xu Weimin
Detection Performance of MIMO-OTH Radar: Advantages of Multipath Ionospheric Propagation .......................................................... 758
Xiaodong Li, Qian He, Boxiao Han, and Zishu He
Mobile Quarantine Service System for Land Ports Based on Vehicle Mounted Terminal .......................................................... 763
Bin Zhang, Xianyu Bao, and Jun Li
A New K-anonymity Algorithm towards Multiple Sensitive Attributes .......................................................... 768
Fei Liu, Yan Jia, and Weihong Han
Resolving Wireless Security Limitations Using a New Wi-Fi Secure Access .......................................................... 773
Salman A. Alqahtani and Mohammed Aloraini

ISDS-01
A Fast Target Detection Method for SAR Image .......................................................... 778
Fang Ning and Tan Fei
An Improved Regularization-Based Super-Resolution Reconstruction for Multi-frame Passive Millimeter-Wave Images .......................................................... 782
Junfeng He, Jintao Xiong, and Jianyu Yang
A High Precision Programmable Reference Generator for Monolithic Active Pixel Sensor Using 3D Integrated Technology .......................................................... 787
X. Wei, D. Gao, and S. Zhan
Face Cartoon Synthesis Based on the Active Appearance Model ................................................................. 793
   Sha Liu, Hongliang Li, and Linfeng Xu

High-Definition Image Processing Algorithm and Digital Platform Design .................................................. 798
   Ao Qian, Chen Rongguan, Ning Ning, Sun Guozhi, Zhang Xiaochen, Zheng Jie, and Kong Deyu

ISDS-02
Research of Radar Range Profile’s Recognition Based on an Improved C-SVM Algorithm ............................................... 801
   Fang Ning and Fan Tao

Exact BER Expressions for BPSK OFDM System with Residual Frequency and Timing Offsets in Frequency Selective Rayleigh Fading Channels ................................................................................... 805
   Yuan Wang, Zhong-Pei Zhang, and Yi-Xian Chen

High Resolution Range Profile Recognition Using Robust Kernel Neighborhood Preserving Projection ......................... 809
   Yun Zhou, Xuelian Yu, Minglei Cui, Xuegang Wang, and Zhongzhi Li

Hardware JPEG Decoder and Efficient Post-Processing Functions for Embedded Application ........................................ 814
   Ke Zhu, Wei Dong Liu, and Jiang Du

CRNs-01
Joint Decoding of Primary and Secondary Users in Cognitive Radio Systems with Opportunistic Interference Cancellation .................................................................................................................. 818
   Zhaorong Zhou, Hong Long, Yu Wang, Tao Jiang, and Sanshan Sun

An Adaptive Double-Threshold Spectrum Sensing Algorithm under Noise Uncertainty ................................................................. 824
   Jinquan Xie and Jin Chen

Cooperative Downloading Strategy on Highway Scenario ......................................................................................... 828
   Jianhang Liu, Yuming Ge, Jingping Bi, and Lei Guo

Research on Multi-channel MAC Protocol in Cognitive Mesh Network ........................................................................ 833
   Yang Guo, Tao Zhao, Jihua Zhou, Yuming Ge, and Yi Sun

Design and Implementation of Multimedia Player for Foreign Language Learning .................................................... 838
   Liu Shiping and Wang Xingfu

CRNs-02
A Numerical Analysis Method for the Problem of a Wedge Water Impact ............................................................... 842
   Wang Yonghu and Wei Zhaoyu

Individual Radio Frequency Interference Identification on VHF Radar Based on Time-Frequency and Chaotic Characteristics ................................................................................................................. 847
   Ligang Huang, Jia Xu, and Lichang Qian

Adaptive Iterative Truncated Arithmetic Mean Filter in Image Denoising ............................................................... 851
   Houbiao Liu, Song Ye, Liangchao Li, and Jianyu Yang
LTCC Vertical Interconnection Modeling by Multi-dimensional Cauchy Approximation ................................................................. 856  
Lei Xia, Yixia Zhang, and Ruimin Xu

Forest Fires Simulation Based on MOGRE Particle System ........................................................................................................ 859  
Liu Hai, Zhang Huaiqing, Jiang Xian, Li Yongliang, Zhang Ning, and Kuang Yilong

A Robust Monte Carlo Tracking Algorithm Based on Feature Adaptive Selection ................................................................. 863  
Yuanchen Qi, Chengdong Wu, Dongyue Chen, and Li Wang

M2MC-01
TDOIN: A Novel Three-Dimensional Optical Interconnection Network for High Performance Computer ......................................................... 869  
Peng Chao, Sun Jiahui, Li Baoliang, Wang Junhui, and Dou Wenhua

Towards Real-Time Indoor Localization in Wireless Sensor Networks ......................................................................................... 877  
Jianqi Liu, Qinruo Wang, Jiafu Wan, and Jianxin Xiong

A Reliable Workflow for Cyber-Physical System Components Substitution .................................................................................... 885  
Peng Wang, Yang Xiang, and Bing Rong Dai

QoS Mechanism for WLAN Based on PID Control ......................................................................................................................... 892  
Hong an Jiang and Xia Wang

M2M Communications for Smart City: An Event-Based Architecture ......................................................................................... 895  
Jiafu Wan, Di Li, Caifeng Zou, and Keliang Zhou

M2MC-02
The Application of Variable Structure Fuzzy Neural Network on GPS Vehicles Dispatching ................................................................................. 901  
Qiu Huanyao

LED Display Screen Monitoring Platform Based on Identity Authentication with USB Key ................................................................................. 905  
Yu Xuechen, Wen Yuanmei, Li Guangchang, and Wang Huaxiang

Study on Establishment of MES-based Real-Time Supply Chain Management Platform ................................................................................ 910  
Ruchun Deng, Kongkuai Guo, and Yuankang Wang

Energy Management Framework Designed for Autonomous Electric Vehicle with Sensor Networks Navigation ................................................. 914  
Hui Suo, Jiafu Wan, Di Li, and Caifeng Zou

MSMN-01
A Fault Detection Scheme Based on Self-Clustering Nodes Sets for Wireless Sensor Networks ......................................................... 921  
Zhaoxing Wang, Qiaoyan Wen, Yi Sun, and Hua Zhang

A Novel Signal Detection Scheme Based on Wavelet Packet Denoising and Cyclic Spectrum Theory ......................................................... 926  
Si Wang, Yulong Gao, Xuanli Wu, and Xiuzhi Guan
Key-Frame Redundancy Transmitting Algorithm for Streaming Media

Yansi Cao, Jun Wu, and Yan Ma

IMS-based Smart Grid System

Yuning Chu, Qiuye Yu, Ying Zhao, Weixiao Meng, and Xuezhi Tan

Application Smart Grid to Trunk System for Emergency Communication

Ying Zhao, Shouming Wei, Yuning Chu, Xuezhi Tan, Ying Zhao, Shouming Wei, Yuning Chu, and Xuezhi Tan

**MSMN-02**

A Handover Scheme for TD-SCDMA Femtocell Networks

Minghe Huang

Study on the Architecture of Platform for Internet of Things Service Based on EDSOA

Songtai Li, Xiuquan Qiao, and Xiaofeng Li

Generalized Laguerre Spectral Method for General Boundary Condition Problems

Zhang Xiao Yong and Jia Hong-Li

Differential Kullback-Leibler Divergence Based Anomaly Detection Scheme in Sensor Networks

Guorui Li and Ying Wang

**MSMN-03**

Bit Error Rate Analysis of Partial Packets in Ad Hoc Wireless Networks

Jia Lu, Xinbiao Gan, Gang Han, and Wenhua Dou

Dempster-Shafer Theory as an Applied Approach to Scenario Forecasting Based on Imprecise Probability

Xiang Yu, Zou Ping, and Ma Li

A New Multi-pattern Matching Algorithm Based on Frequently Used Group

Guangming Yang, Shuang Li, Zhenhua Tan, Xiangshuai Yan, and Xiangjun Hou

Context-Aware Dynamic Service Matchmaking

Shan Liu, Yichao Yang, Wenfeng Zheng, and Xiaolu Li

**UMES-01**

Influence of CPW Dimension on Quality Factor in Microwave Measurement

Xin Cao, Yunqiu Wu, Zongxi Tang, and Biao Zhang

Design and Research of SoC Communication in CNC System Based on Heterogeneous Processor

Sheng Liu, Hu Lin, Yaodong Tao, Yilin Zheng, and Yuhan Jin

Using Row Operation Unit to Realize Reconfigurable Ternary Optical Processor

Song Kai, Ouyang Shan, and Jin Yi
Accurate and Robust Circular Object Detection Using Conditional Probability
Searching ...........................................................................................................................................................1004
  Shi Yu, Wang Ran, Wang Guoyou, and Li Xiuhua

UMES-02
An Efficient Hardware Random Number Generator Based on the MT Method ...............................................1011
  Yuan Li, Jiang Jiang, Hanqiang Cheng, Minxuan Zhang, and Shaojun Wei
The Study of Jitter Correction Method for Numerical Control Fieldbus Based on Markov Chain Model .................................................................1016
  Shao Xinlong, Yin Zhenyu, Yang Dongsheng, and Xu Mingzi
Study Complex Networks Routing Optimization Based on Expansion Referral ...........................................1021
  Yuan Chunlong and Zhao Hai
Research and Design of TMR-based Fault Tolerance System for CNC ...........................................................1025
  Huang Zuguang, Yin Zhenyu, Zhao Qinzhi, and Zhang Chengrui

UUMA-01
Research on the Parallel Partition Performance of High-Speed Train with Aerodynamic Brake Based on Fluent ..................................................................................................................................................1029
  Xia Zhang, Pin Wu, Weilie Shang, Wei Chen, and Sheng Gao
Branch Strategy and Deletion Strategy Matching on Interval Global Optimization Algorithm .................................................................1034
  Xuening Fan, Yongmei Lei, and Ronggang Jia
Evaluation of User Model Using Partial Order Relation ..................................................................................1040
  Jianxing Zheng, Bofeng Zhang, and You Zhang
Discovering Similar User Models Based on Interest Tree ................................................................................1046
  Luxu Zhang, Bofeng Zhang, Jianxing Zheng, Xiaoyan Weng, Ming Wang, and Kebo Mei

UUMA-02
Adaptive Updating Algorithm of User Model Based on Interest Cycle ............................................................1051
  Ming Wang, Bofeng Zhang, Jianxing Zheng, Kebo Mei, and Luxu Zhang
Method of Recommend Microblogging Based on User Model ............................................................................1056
  Kebo Mei, Bofeng Zhang, Jianxing Zheng, Luxu Zhang, and Ming Wang
Time-Based K-nearest Neighbor Collaborative Filtering ..................................................................................1061
  Yue Liu, Zhe Xu, Binkai Shi, and Bofeng Zhang
A Text Representation and Retrieval Method Based on Concept Algebra ..........................................................1066
  Feiyue Ye, Hongxin Cao, and Xiangfeng Luo
Search of Web Service Based on Community .................................................................................................1072
  Lei Wang, Fangfang Liu, Jie Yu, and Xiaojing Li
A Method of Discovering Collaborative Users Based on Psychological Model in Academic Recommendation ..................................................................................................................................1076
  Jie Yu, Haihong Zhao, Fangfang Liu, and Geke Xie
UUMA-03

Deep Web Repeated Pattern Discovering Based on the Largest Block Strategy ........................................1082
Feiyue Ye, Haibo Tang, and Xiangfeng Luo

Cross-Validation of Multi-source SST Data Based on Point-to-Point ...............................................................1087
Cuicui Song, Lingyu Xu, Hongmei Shi, Fei Zhong, Gaozhao Chen, and Yang Liu

XPath-Based Filter for Publish/Subscribe in Healthcare Environments ...........................................................1092
Linlin Liu and Shizhong Yuan

Improved Edit Distance Method for System Call Anomaly Detection ............................................................1097
Qian Quan, Wu Jinlin, Zhu Wei, and Xin Mingjun

Landslide Recognition in Remote Sensing Image Based on Fuzzy Support Vector Machine ......................................1103
Guan Ningning, Yin Jingyuan, Li Chengfan, Lei Ming, and Zhang Ming

UUMA-04

BSPCloud: A Programming Model for Cloud Computing ................................................................................1109
Xiaodong Liu, Weiqin Tong, and Yan Hou

Cross Language Information Extraction for Digitized Textbooks of Specific Domains ........................................1114
Wenhao Zhu, Laihu Luo, Chaoyou Ju, and Bofeng Zhang

Pricing as a Service: Personalized Pricing Strategy in Cloud Computing ........................................................1119
Xing Wu, Wu Zhang, and Dou Wanchun

MaaS: Model as a Service in Cloud Computing and Cyber-I Space ...............................................................1125
Guobing Zou, Bofeng Zhang, Jianxing Zheng, Yinsheng Li, and Jianhua Ma

Research on Topic Segmentation of Chinese Text Based on Lexical Chain ....................................................1131
Ye Fei-Yue, Chen Yan, Luo Xiangfeng, Tang Haibo, and Cao Hongxin

Author Index ....................................................................................................................................................1137