

# **2013 AASRI Conference on Parallel and Distributed Computing and Systems (DCS 2013)**

**AASRI Procedia Volume 5**

**Singapore  
1 – 2 May 2013**

Editors:

**W. Deng**

**ISBN: 978-1-62993-560-7**

**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© by Elsevier B.V.  
All rights reserved.

Printed by Curran Associates, Inc. (2014)

For permission requests, please contact Elsevier B.V.  
at the address below.

Elsevier B.V.  
Radarweg 29  
Amsterdam 1043 NX  
The Netherlands

Phone: +31 20 485 3911  
Fax: +31 20 485 2457

<http://www.elsevierpublishingsolutions.com/contact.asp>

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2634  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

# TABLE OF CONTENTS

<b>Preface</b> .....	1
<b>Parallel Processing of Sensor Network Data Using Column-oriented Databases</b> .....	2
<i>K. Kim, C. Kim</i>	
<b>An Efficient Distributed Anomaly Detection Model for Wireless Sensor Networks</b> .....	9
<i>M. Rassam, A. Zainal, M. Maarof</i>	
<b>A Location Temporal based Access Control Model for IoTs</b> .....	15
<i>C. Lee, Y. Guo, L. Yin</i>	
<b>Research of AODV Routing Protocol for Ad Hoc Networks</b> .....	21
<i>S. Liu, Y. Yang, W. Wang</i>	
<b>Intra-symbol Piecewise Equalization for OFDM Systems in Fast Fading Channels</b> .....	32
<i>Z. Chen, L. Wang, P. Ren</i>	
<b>A Mode Shifting Resource Allocation Scheme for Device-to-Device Underlying Cellular Network</b> .....	40
<i>J. Gao, X. Liao, J. Deng, P. Ren</i>	
<b>Video Coding and Routing in Wireless Video Sensor Networks</b> .....	48
<i>H. Al-Zoubi</i>	
<b>False Alarm Detection in Cyber-physical Systems for Healthcare Applications</b> .....	54
<i>S. Haque, S. Aziz</i>	
<b>Co-SRL: A Convex Optimization Algorithm for Anchor Localization in Wireless Sensor Networks</b> .....	62
<i>W. Liu, D. Sun, P. Ren, Y. Zhang</i>	
<b>A New Technique for Generating Minimal Cut Sets in Nontrivial Network</b> .....	67
<i>M. Rebaiaia, D. Ait-Kadi</i>	
<b>A Distributed Variable Tap-length Algorithm within Diffusion Adaptive Networks</b> .....	77
<i>L. Li, J. Feng, J. He, J. Chambers</i>	
<b>Multi-node Repositioning Technique for Mobile Sensor Network</b> .....	85
<i>M. Khan, H. Hasbullah, B. Nazir</i>	
<b>Comparative Analysis of Active and Passive Indoor Localization Systems</b> .....	92
<i>N. Pirzada, M. Nayan, F. Subhan, M. Hassan, M. Khan</i>	
<b>Energy-efficient Relay Selection for Multicast Communication</b> .....	98
<i>J. Wang, Z. Chen, Y. Yao</i>	
<b>Design and Implementation of Multi-sensor Integrated 3D Laser Scanning Data Acquisition System</b> .....	106
<i>Y. Sun, X. Zheng, Z. Jia, H. Wang</i>	
<b>Intuitionistic Fuzzy Real Time Multigraphs for Communication Networks: A Theoretical Model</b> .....	114
<i>S. Biswas, B. Alam, M. Doja</i>	
<b>The Method of Distribute Data Storage and Location on Weights of Jump Table</b> .....	120
<i>B. Shao, G. Bian, W. Zhang</i>	
<b>Formal Modeling and Verification of Multi-agent System Architecture</b> .....	126
<i>L. Yuan, P. Fan</i>	
<b>Design Reusability and Adaptability for Concurrent Software</b> .....	133
<i>P. Netinant</i>	
<b>Analyzing Performance of the Parallel-based Fractal Image Compression Problem on Multicore Systems</b> .....	140
<i>R. Gomes, V. Guerreiro, R. Righi, L. Silveira Jr., J. Yang</i>	
<b>Managing Data Replication and Placement based on Availability</b> .....	147
<i>B. Meroufel, G. Belalem</i>	
<b>Large Distributed Arabic Handwriting Recognition System based on the Combination of FastDTW Algorithm and Map-reduce Programming Model via Cloud Computing Technologies</b> .....	156
<i>H. Hassen, M. Khemakhem</i>	
<b>Analysis of Reactive Routing Protocol Using Fuzzy Inference System</b> .....	164
<i>M. Doja, B. Alam, V. Sharma</i>	
<b>Parallel Micro Blog Crawler Construction for Effective Opinion Leader Approximation</b> .....	170
<i>X. Deng, Y. Li, S. Lin</i>	
<b>A New Recursive Decomposition Algorithm to Calculate IMDCT</b> .....	177
<i>H. Li, Y. Wang, P. Li, Y. Li</i>	
<b>A New Proposal for Distributed System Security Framework</b> .....	183
<i>V. Prakash, M. Darbari</i>	

<b>Matrix Multiplication Using r-Train Data Structure .....</b>	<b>189</b>
<i>B. Alam</i>	
<b>5-Layered Architecture of Cloud Database Management System.....</b>	<b>194</b>
<i>B. Alam, M. Doja, M. Alam, S. Mongia</i>	
<b>A Mobile Chinese Calligraphic Training System Using Virtual Reality Technology .....</b>	<b>200</b>
<i>Y. Wu, Z. Yuan, D. Zhou, Y. Cai</i>	
<b>Implementation of DES Encryption Arithmetic based on FPGA .....</b>	<b>209</b>
<i>C. Liu, J. Ji, Z. Liu</i>	
<b>Parallel Construction of Variable Precision Concept Lattice in Fuzzy Formal Context .....</b>	<b>214</b>
<i>Y. Yang</i>	
<b>A Reputation-based Collaborative Approach for Spam Filtering.....</b>	<b>220</b>
<i>W. Shi, M. Xie</i>	
<b>Quality Measurements for Association Rules Hiding .....</b>	<b>228</b>
<i>H. Wang</i>	
<b>A User Preference and Service Time Mix-aware Resource Provisioning Strategy for Multi-tier Cloud Services .....</b>	<b>235</b>
<i>D. Hu, N. Chen, S. Dong, Y. Wan</i>	
<b>Bio-inspired Motion Attention for Gist Perception under Spatio-temporal Dimension .....</b>	<b>243</b>
<i>J. Xu, S. Yue</i>	
<b>Modeling and Simulation of Different System Topologies for DSTATCOM .....</b>	<b>249</b>
<i>P. Kumar, N. Kumar, A. Akella</i>	
<b>Improved Particle Filter for Target Tracing Application based on ChinaGrid.....</b>	<b>262</b>
<i>Y. Li, X. He, H. Jia</i>	
<b>Hierarchical Scheduling Mechanisms for Multilingual Information Resources in Cloud Computing.....</b>	<b>268</b>
<i>Y. Han, X. Luo</i>	
<b>The Analysis for Small-World Network's Evolution based on Network Entropy.....</b>	<b>274</b>
<i>L. Shuo, Y. Chen, Z. Zhang, W. Li</i>	
<b>TrustP2PNet: P2P Social Network with Admission Control Model based on Trust.....</b>	<b>281</b>
<i>W. Liu, P. Ren, D. Sun, K. Liu, J. Wu</i>	
<b>Micro-blog Information Regulatory Mechanism based on Ontology Modeling.....</b>	<b>287</b>
<i>B. Xu, X. Wang, S. Zhang</i>	
<b>Author Index</b>	