

# **2013 AASRI Conference on Intelligent Systems and Control**

**(ISC 2013)**

**AASRI Procedia Volume 4**

**Vancouver, Canada  
17 – 18 April 2013**

**Editors:**

**W. Deng**

**ISBN: 978-1-62993-559-1**

**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© 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>The Research of the Transition from Traditional AVC to Smart AVC</b> .....	2
<i>H. Xu, X. Ding, J. Shi, G. Chen</i>	
<b>Circuit Switch Fallback Improvement and the Smarter Way for Implementation</b> .....	9
<i>Y. Jouihri, Z. Guennoun</i>	
<b>PD-fuzzy Control of a Stair Climbing Wheelchair</b> .....	18
<i>N. Ghani, A. Nasir, M. Hassan, M. Tokhi</i>	
<b>On the Pursuit of Reliable Solutions for a Robotic Optimization Problem</b> .....	26
<i>R. Soto, S. Caro, B. Crawford</i>	
<b>A Hyper-solution Framework for SVM Classification: Improving Damage Detection on Helicopter Fuselage Panels</b> .....	31
<i>A. Candelieri, R. Sormani, G. Arosio, I. Giordani, F. Archetti</i>	
<b>Automatic Definition of Regions of Interest on Renal Scintigraphic Images</b> .....	37
<i>Y. Aribi, A. Wali, M. Chakroun, A. Alimi</i>	
<b>Modeling the Lane Contention Algorithm for Control in Intelligent Vehicular Systems</b> .....	43
<i>M. Parulekar, V. Ramesh, P. Joshi, V. Padte, D. Shroff</i>	
<b>Comparison of Distance Measures on Fuzzyc-means Algorithm for Image Classification Problem</b> .....	50
<i>J. Han, D. Park, D. Woo, S. Min</i>	
<b>Constrained Tunable-Q Wavelet Transform based Analysis of Cardiac Sound Signals</b> .....	57
<i>S. Patidar, R. Pachori</i>	
<b>Cultural Heritage Sites Visualization System based on Outdoor Augmented Reality</b> .....	64
<i>J. Han, K. Park, K. Ban, E. Kim</i>	
<b>Video Stabilization for Aerial Video Surveillance</b> .....	72
<i>A. Walha, A. Wali, A. Alimi</i>	
<b>On-the-fly Extraction of Key Frames for Efficient Video Summarization</b> .....	78
<i>W. Barhoumi, E. Zagrouba</i>	
<b>The Research of the Smart Automatic Voltage Control(Smart AVC)</b> .....	85
<i>X. Ding, J. Shi, L. Zhou</i>	
<b>Development of a CAD System for Automatic Classification of Microcalcifications based on FPGA</b> .....	90
<i>T. Docusse, A. Silva, A. Pereira, N. Marranghello</i>	
<b>A Lyapunov-based Adaptive Control Law for an Electromagnetic Actuator</b> .....	96
<i>P. Mercorelli</i>	
<b>On Performance Analysis of IASEN–3 in Faulty and Non–faulty Network Conditions</b> .....	104
<i>V. Bhardwaj, Nitin</i>	
<b>Design and Simulation of the Timed Triggered Protocol (TTP) Using Agents</b> .....	110
<i>S. Zaidi, F. Boutekkouk</i>	
<b>Qualities of Interest for Spontaneous Networked Organizations</b> .....	118
<i>S. Alqithami, H. Hexmoor</i>	
<b>Detecting Malicious URLs in E-mail – An Implementation</b> .....	125
<i>D. Ranganayakulu, C. Chellappan</i>	
<b>Neural Network Vs. Bayesian Network to Detect Java Card Mutants</b> .....	132
<i>I. Farissi, M. Azizi, J. Lanet, M. Moussaoui</i>	
<b>Towards a New Approach for Securing IMS Networks</b> .....	138
<i>E. Belmekki, B. Raouyane, M. Bellafkih, N. Bouaouda</i>	
<b>On the Core of Agents Interactions in a Spontaneous Networked Organization</b> .....	147
<i>M. Hamdi, S. Alqithami, H. Hexmoor</i>	
<b>A Parametric Study on Performance of Semi-active Suspension System with Variable Damping Coefficient Limit</b> .....	154
<i>A. Qazi, A. Khan, M. Khan, S. Noor</i>	
<b>Optimization of Semi-active Suspension System Using Particle Swarm Optimization Algorithm</b> .....	160
<i>A. Qazi, U. Farooqui, A. Khan, M. Khan, F. Mazhar, A. Fiaz</i>	
<b>The Characteristics of University Journal Information Resources and It's Development and Management</b> .....	167
<i>R. Wang, F. Zhao</i>	
<b>Airwaves Prediction Model for Shallow Water Marine Control Source Electromagnetic Data</b> .....	173
<i>M. Abdulkarim, A. Shafie, W. Ahmad, R. Razali</i>	

<b>The Supportive System for the Processing of Human and Non-human Knowledge Sources and Combining Mining Techniques .....</b>	<b>182</b>
<i>S. Svetsky, O. Moravcik</i>	
<b>Formulation Process of Knowledge for an Expert Healthcare System Unit.....</b>	<b>190</b>
<i>K. Greyson, M. Mburuma, N. Nzowa, F. Mbano, G. Rugumira, J. Ally, A. Mfinanga, P. Haule, R. Lihakanga, E. Abayo</i>	
<b>Chronological Sequence of Developing a Condition-ction Rule in the Heassy Unit.....</b>	<b>196</b>
<i>K. Greyson, M. Mburuma, N. Nzowa, F. Mbano, G. Rugumira, J. Ally, A. Mfinanga, P. Haule, R. Lihakanga, E. Abayo</i>	
<b>Modeling NRPs with Soft and Reified Constraints.....</b>	<b>202</b>
<i>R. Soto, B. Crawford, R. Bertrand, E. Monfroy</i>	
<b>Soft Computing Approaches in Traffic Control Systems: A Review.....</b>	<b>206</b>
<i>S. Tahilyani, M. Darbari, P. Shukla</i>	
<b>Computational Exploration of Theme-based Blog Data Using Topic Modeling, NERC and Sentiment Classifier Combine .....</b>	<b>212</b>
<i>V. Singh, P. Waila, R. Piryani, A. Uddin</i>	
<b>Mechanical Fault Recognition for WTG based on Aligning Vibration Signal's Energy Spectrum.....</b>	<b>223</b>
<i>H. Pan, M. Qin, J. Zhang, L. Pan</i>	
<b>A Software Scheme for UAV's Safe Landing Area Discovery .....</b>	<b>230</b>
<i>X. Li</i>	
<b>Application of Information System of Varieties of Common Knowledge in PVP.....</b>	<b>236</b>
<i>Y. Liu, Q. Huang, J. Zhang, X. Yang, Y. Li, Y. Wang, J. Wang, H. Zhang, J. Guan</i>	
<b>MKF-Cuckoo: Hybridization of Cuckoo Search and Multiple Kernel-based Fuzzy C-means Algorithm .....</b>	<b>243</b>
<i>D. Binu, M. Selvi, Aloysius George</i>	
<b>Electric Energy Data Acquisition Communication Power Test Research .....</b>	<b>250</b>
<i>H. Sun, J. Ye, K. Zheng</i>	
<b>Colorization by Example Using Dual-tree Complex Wavelet Transform and Jseg .....</b>	<b>261</b>
<i>Z. Ali, S. Gilani</i>	
<b>Transparency Issues in a Hybrid Reasoning Architecture for Assistive Healthcare .....</b>	<b>268</b>
<i>B. Yuan, J. Herbert</i>	
<b>Determination of Significant Features to Precancerous Cervical Classification .....</b>	<b>275</b>
<i>A. Aguilera, M. Palma, R. Mata-Toledo</i>	
<b>Solutions for RFID Smart Tagged Card Security Vulnerabilities.....</b>	<b>282</b>
<i>A. Willimson, L. Tsay, I. Kateeb, L. Burton</i>	
<b>APOGA: An Adaptive Population Pool Size based Genetic Algorithm .....</b>	<b>288</b>
<i>B. Rajakumar, A. George</i>	
<b>Identification Accuracy of Nonlinear System based on Volterra Model in Frequency Domain .....</b>	<b>297</b>
<i>P. Vitaliy, F. Aleksandr, P. Sergey, G. Yuriy</i>	
<b>Off-line Handwritten Character Recognition Using Features Extracted from Binarization Technique .....</b>	<b>306</b>
<i>A. Choudhary, R. Rishi, S. Ahlawat</i>	
<b>Constraint based Sequential Pattern Mining in Time Series Databases - A Two Way Approach.....</b>	<b>313</b>
<i>V. Radhakrishna, C. Srinivas, C. Rao</i>	
<b>Clustering Software Components for Program Restructuring and Component Reuse Using Hybrid XOR Similarity Function .....</b>	<b>319</b>
<i>C. Srinivas, V. Radhakrishna, C. Rao</i>	
<b>Study of Qualitative Data Cluster Model based on Granular Computing.....</b>	<b>329</b>
<i>H. Li, S. Yang, H. Liu</i>	
<b>The Statistical Analysis of Patients' Clinical Data in Emergency Department by Using Hospital Information System .....</b>	<b>334</b>
<i>Y. Xu, H. Sun, S. Zhang</i>	
<b>Author Index</b>	