



INTELLI 2014

The Third International Conference on Intelligent Systems and Applications

June 22 - 26, 2014

Seville, Spain

INTELLI 2014 Editors

Jerzy Grzymala-Busse, University of Kansas, USA

Ingo Schwab, Karlsruhe University of Applied Sciences, Germany

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© (2014) by International Academy, Research, and Industry Association (IARIA)
Please refer to the Copyright Information page.

Printed by Curran Associates, Inc. (2014)

International Academy, Research, and Industry Association (IARIA)
412 Derby Way
Wilmington, DE 19810

Phone: (408) 893-6407
Fax: (408) 527-6351

petre@iaria.org

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
Web: www.proceedings.com

TABLE OF CONTENTS

INTELLI 1: INTELLIGENT TRANSPORT SYSTEMS

A Simulation Model for Transport in a Grid-Based Manufacturing System	1
<i>L. Moergestel, E. Puik, D. Telgen, M. Kuijl, B. Alblas, J. Koelewijn, J. Meyer</i>	
Triggering Solar-Powered Vehicle Activated Signs using Self Organising Maps with K-Means	8
<i>D. Jomaa, S. Yella, M. Dogherty</i>	
Analytical Network Process for the On-Line Dispatching	15
<i>B. Davydov, V. Kuzmitskiy, A. Serenko</i>	

INTELLI 2: INTELLIGENT ROBOTICS

Constructing Autonomous Multi-Robot System	19
<i>N. Serbedzija, F. Fokus</i>	
Fuzzy Logic Control for Gaze-Guided Personal Assistance Robots	25
<i>C. Nelson</i>	
Establishing a Lightweight Communicative Multiagent Java Framework	29
<i>B. McCraw, J. Ruger, R. Flores, R. Kremer</i>	
Comparison of DEAS and GA for Sensitivity Optimization in MEMS Gyroscope	33
<i>H. Cho, M. Park, J. Kim, S. Kim</i>	

INTELLI 3: INTELLIGENT DISTRIBUTED SYSTEMS

The Concept of Attack Surface Reasoning	39
<i>M. Atighetchi, N. Soule, R. Watro, J. Loyall</i>	
A Method for Evolutionary Decision Reconciliation, and Expert Theorems	43
<i>V. Protasov, Z. Potapova, E. Melnikov</i>	
Dynamic Deployment and Reconfiguration of Intelligent Mobile Cloud Applications Using Context-Driven Probabilistic Models	48
<i>N. Naqvi, D. Preuveneers, Y. Berbers</i>	

INTELLI 4: INTELLIGENT DATA ANALYSIS

A Method of Applying Component-Based Software Technologies to Model Driven Development	54
<i>K. Matsumoto, T. Mizuno, N. Mori</i>	
ReALIS1.1: The Toolbox of Generalized Intensional Truth Evaluation	60
<i>G. Alberti, L. Nothig</i>	
A Comparative Study of Imputation Methods in Predicting Missing Attribute Values in DGA Datasets	67
<i>Z. Sahri, R. Yusof</i>	
Unlike Behavior of Natural Frequencies in Bending Beam Vibrations with Boundary Damping in Context of Bio-Inspired Sensors	75
<i>C. Behn, C. Will, J. Steigenberger</i>	
Towards Semantic Facility Data Management	85
<i>I. Niskanen, A. Purhonen, J. Kuusjarvi, E. Halmetoja</i>	

INTELLI 5: FUNDAMENTALS IN INTELLIGENT SYSTEMS AND APPLICATIONS

Complexity of Rule Sets Induced from Incomplete Data with Lost Values and Attribute-Concept Values	91
<i>P. Clark, J. Grzymala-Busse</i>	
Intelligent Technique to Accomplish a Effective Knowledge Retrieval from Distributed Repositories	97
<i>A. Martin, C. Leon</i>	

Self-Managed Crowdsourcing	103
<i>V. Protasov, Z. Potapova, E. Melnikov</i>	

INTELLI 6: BIO-INSPIRED INTELLIGENCE

Refining the Scatteredness of Classes using Pheromone-Based Kohonen Self-Organizing Map (PKSOM)	107
<i>A. Ahmad, R. Yusof</i>	
Collision Estimation Using Single Camera: Discussion under the Condition of Constant Velocity	114
<i>R. Ikeno, K. Ito</i>	
Velocity Estimation from Visual Information using Environmental Property	118
<i>H. Takase, K. Ito</i>	
Author Index	