



FUTURE COMPUTING 2011

The Third International Conference on Future Computational Technologies and Applications

September 25-30, 2011
Rome, Italy

FUTURE COMPUTING 2011 Editors

Kendall E. Nygard, North Dakota State University - Fargo, USA

Pascal Lorenz, University of Haute Alsace, France

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© (2011) by International Academy, Research, and Industry Association (IARIA)
Please refer to the Copyright Information page.

Printed by Curran Associates, Inc. (2012)

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

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

petre@aria.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

FUTURE COMPUTING 1: COMPUTATIONAL INTELLIGENCE STRATEGIES

Efficient Swarm Algorithms to Constrained Resource Allocation	1
<i>P. Yin, J. Wang</i>	
A Multi-Answer Character Recognition Method and Its Implementation on a High-Performance Computing Cluster	7
<i>Q. Wu, M. Bishop, R. Pino, R. Linderman, Q. Qiu</i>	
Extracting Market Trends from the Cross Correlation between Stock Time Series	14
<i>M. Tanaka-Yamawaki, T. Kido</i>	
Virtual Team Tasks Performance Evaluation Based on Multi-level Fuzzy Comprehensive Method.....	20
<i>D. Kriksciuniene, S. Strigunaitė</i>	
The Development and Implementation of a Short Term Prediction Tool Using Artificial Neural Networks.....	26
<i>A. Alkhatib, S. Heier, M. Kurt</i>	

FUTURE COMPUTING 2: LARGE-SCALE COMPUTING STRATEGIES

Process Management Reviewed.....	32
<i>M. Sharifi, S. Mirtaheri, E. Khaneghah, Z. Khaneghah</i>	
Parallel Processing for 3-D Slope Stability Problems	37
<i>C. Ming, L. Na</i>	
Agent-Oriented Computing: Agents as a Paradigm for Computer Programming and Software Development.....	42
<i>A. Ricci, A. Santi</i>	
Towards Ubiquitous Computing Clouds	52
<i>A. Khalifa, R. Hassan, M. Eltoweissy</i>	

FUTURE COMPUTING 3: MECHANISM-ORIENTED COMPUTING

The Hopfield-type Memory Without Catastrophic Forgetting.....	57
<i>I. Karandashev, B. Kryzhanovsky, L. Litinskii</i>	
An Artificial Intelligence Approach Towards Sensorial Materials	62
<i>F. Pantke, S. Bosse, M. Lawo, D. Lehmhus, M. Busse</i>	
A Soft Case-based Reasoning System for Travelling Time Estimation.....	69
<i>L. Wang, W. Ip</i>	
Optimizing the Area Under the ROC Curve in Multilayer Perceptron-based Classifiers	75
<i>R. Ramos-Pollan, N. Posada, M. Lopez</i>	

FUTURE COMPUTING 4: COMPUTING TECHNOLOGIES

Schrodinger's Register: Foundational Issues and Physical Realization.....	82
<i>S. Pink, S. Martens</i>	
A Real-Time PC Based Software Radio DVB-T Receiver	86
<i>S. Tseng, J. Yu, Y. Hsu</i>	
Evaluation of Seed Throwing Optimization Meta Heuristic in Terms of Performance and Parallelizability	92
<i>O. Weede, S. Zimmermann, B. Hein, H. Worn</i>	
A Case Study on the Design Trade-off of a Thread Level Data Flow based Many-core Architecture	100
<i>Z. Yu, A. Righi, R. Giorgi</i>	

FUTURE COMPUTING 5: TECHNOLOGY-ORIENTED COMPUTING

Theoretical Analysis and Simulation to Investigate the Fundamental Rules of Trust Signaling Games in Network-based Transactions	107
<i>S. Kim, J. Hwang</i>	
A Two-Phase Security Algorithm for Hierarchical Sensor Networks	114
<i>J. Zhao, K. Nygard</i>	
Cloud Computing and the Enterprise Needs for Data Freedom.....	121
<i>D. Kriksciuniene, D. Mazeika</i>	
A Computational Intelligence Algorithm for Simulation-driven Optimization Problems	127
<i>Y. Tenne, K. Izui, S. Nishiwaki</i>	
Author Index	