

International Society for Computers
and their Applications

14th International Conference on Intelligent and Adaptive Systems and Software Engineering 2005

July 20-22, 2005
Toronto, Canada

Printed from CD-ROM with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571
www.proceedings.com

À
=G6 B. : - +, !%* \$(& !()) !,

INTERNATIONAL SOCIETY FOR COMPUTERS AND THEIR APPLICATIONS

14th International Conference on Intelligent and Adaptive Systems and Software Engineering

July 20-22, 2005
Novotel Toronto Centre, Toronto, Canada

TECHNICAL PAPER INDEX

INTELLIGENT AND ADAPTIVE SYSTEMS

SIGMA: A Multi-Agent System Architecture for Monitoring and Diagnosis in Supervisory Systems <i>Fabiano K. T. Tiba and Miriam A. M. Capretz (University of Western Ontario, Canada)</i>	1
Autonomic Computing Based on Generalized Particle Model <i>Dianxun Shuai, Rui Gong, Xing Wang, Wenlang Wang, Rongrong Liu (East China University of Science and Technology, China)</i>	7
Job Scheduling with Real-Time Optimal Control <i>Hsiu-Jy Ho and Wei-Ming Lin (The University of Texas at San Antonio, USA)</i>	13
Self-Organizing Clustering Based on Generalized Particle Model <i>Dianxun Shuai, Rongrong Liu, Wenlan Wang, Fangliang Xue (East China University of Science and Technology, China)</i>	19
Improving Particle Swarm Optimizer Using the Nonlinear Simplex Method at Late Stage <i>Yuhui Qiu and Fang Wang (Southwest China Normal University, China)</i>	25
History Abstractions of an Interactive Frequency Table <i>Walter Dosch (University of Lübeck, Germany)</i>	31
Neuro Fuzzy Techniques Using MATLAB/SIMULINK Applied to Real Process <i>Tharwat E. Alhanafy (Al-Azhar University, Egypt), Tarek S. Sobh (Egyptian Armed Forces, Egypt) and Awad H. Khalil (The American University in Cairo, Egypt)</i>	40
People Tracking System with Lighting Effect Estimation in Open Environment <i>Ching-Tang Hsieh, Yeh-Kuang Wu and Chia-Yi Chen (Tamkang University, Taiwan)</i>	46
Creating Short Length Masks using Vertical Processing <i>George Hamer and William Perrizo (North Dakota State University, USA)</i>	51
A Weighted-Tree Simplicity Algorithm for Similarity Matching of Partial Product Descriptions <i>Lu Yang, Biplab K. Sarker, Virendrakumar C. Bhavsar (University of New Brunswick, Canada) and Harold Boley (National Research Council, Canada)</i>	55

Prediction of Annual Inflation Rate using Neural Networks <i>Toma I. Hentea and Donald L. Gray (Purdue University Calumet, USA)</i>	61
State Specialization in a Service Discovery Ontology: A Financial Services Business Grid <i>David Bell (Brunel University, UK), Simone A. Ludwig (Cardiff University, UK) and Mark Lycett (Brunel University, UK)</i>	66
Vertical Set Square Distance Based Clustering without Prior Knowledge of K <i>Amal Perera, Taufik Abidin, Masum Serazi (North Dakota State University, USA), George Hamer (South Dakota State University, USA) and William Perrizo (North Dakota State University, USA)</i>	72
Comparing the Performance of Principal Component Analysis and RBF Network for Face Recognition using Locally Linear Embedding <i>Eimad Eldin A.A.Abusham, David Ngo and Andrew Teoh (Multimedia University, Malaysia)</i>	78
The Seventeen Distinct Symmetrical Patterns Based on Biometrics used as Security Approach <i>Amer Salman (Thames Valley University, UK), Rula Salman (ABC Europe Ltd., UK) and Chris Alexander (Thames Valley University, UK)</i>	83
Intelligent and Adaptive Water Level Prediction in Texas Coastal Waters <i>Ray Bachnak, Carl Steidley, Alex Sadvoski, Phillipe Tissot, Zack Bowles (Texas A&M University – Corpus Christi, USA)</i>	89
Profile Based Alignment Learning System For Language Inference <i>Xiangrui Wang and Narendra S. Chaudhari (Nanyang Technological University, Singapore)</i>	94
Search of Mathematical Contents: Issues And Methods <i>Abdou Youssef (The George Washington University, USA)</i>	100
One-Timer and Non-One-Timer Characterization of Web Traffic <i>Archana Kodaypak and Sivarama Dandamudi (Carleton University, Canada)</i>	106
Extending Agent-Based Collaborative Virtual Environment to be HLA Compliant <i>Lei Guo and Nicolas D. Georganas (University of Ottawa, Canada)</i>	112
Multiple Fuzzy Reference Model Adaptive Controller Algorithm for Aircraft Pitch-Rate Tracking <i>Sukumar Kamalasadana (University of West Florida, USA) and Adel A.Ghandakly (University of Toledo, USA)</i>	117
A Neural Network Parallel Adaptive Controller Algorithm for Fighter Aircraft Pitch Rate Control <i>Sukumar Kamalasadana (University of West Florida, USA) and Adel A.Ghandakly (University of Toledo, USA)</i>	123
IWAR Protocol: An Adaptive Routing Protocol for Wireless Ad Hoc Networks <i>Hamed El-Afandi, Hossein Hosseini and K. Vairavan (University of Wisconsin, USA)</i>	129
Designing And Exploiting The Location Concept in a Reflective Architecture <i>Francesca Arcelli, Claudia Raibulet, Francesco Tisato, and Luigi Ubezio (University of Milano-Bicocca, Italy)</i>	134

SOFTWARE ENGINEERING

Stochastic Cost Estimation and Risk Analysis in Managing Software Projects <i>A. M. Connor and S. G. MacDonell (Auckland University of Technology, New Zealand)</i>	140
Automated Code Generation for Database Applications <i>Ehat Ercanli, Necati Ercan Ozgencil and Murat Kahraman Gungor (Syracuse University, USA)</i>	145
An Api for Transparent Distributed Vertical Data Mining <i>Masum Serazi, Amal Perera, Taufik Abidin (North Dakota State University, USA), George Hamer (South Dakota State University, USA) and William Perrizo (North Dakota State University, USA)</i>	151
Automatic Checking of the Security Systems' Topologies <i>Kaninda Musumbu (University of Bordeaux 1, France)</i>	157
Improving Intrusion Awareness with a Neural Network Classifier <i>M. Hentea (Southwestern Oklahoma State University, USA)</i>	163
Secure Steganography using the Most Significant Bits <i>George Hamer and William Perrizo (North Dakota State University, USA)</i>	169
A UML Framework for Web Services-Based Clinical Decision Support <i>Christina Catley, Dorina C. Petriu (Carleton University, Canada) and Monique Frize (Carleton University and University of Ottawa, Canada)</i>	174
An Expert System for Web Site Navigation using Client Side Scripting <i>Scott James Williamson and Chris Liu (Trent University, Canada)</i>	180
A Framework for Contextual Information Retrieval from the WWW <i>D. K. Lumbu, A. M. Connor and S. G. MacDonell (Auckland University of Technology, New Zealand)</i>	185
Java Autotester for the Triangle Function <i>Narayan C. Debnath (Winona State University, USA), Maria Alejandra Barrera (Universidad Nacional de Catamarca, Argentina), Mark Burgin (University of California-Los Angeles, USA), Joshua Wilson and Joseph Cropper (Winona State University, USA)</i>	190
A Practical Approach for Requirements Elicitation <i>Ahmed M. Salem and Kevin Leung (California State University, Sacramento, USA)</i>	196
Testing as Specification in Agile Methods <i>A. Dasso (Universidad Nacional de San Luis, Argentina), N. Debnath (Winona State University, USA), A. Funes, D. Riesco, G. Montejano and R. Uzal (Universidad Nacional de San Luis, Argentina)</i>	202
A Design Space for Context-Sensitive User Interfaces <i>Jean Vanderdonckt, Donatien Grolaux, Peter Van Roy, Quentin Limbourg, Benoît Macq and Benoît Michel (Université catholique de Louvain, Belgium)</i>	207
A Empirical Comparison of Monte Carlo Methods for Simulating Random Variants that follow Cubic Polynomial Based Mathematical Models <i>Craig Hourie, James W. Jury and Richard T. Hurley (Trent University, Canada)</i>	215
High-Level Design of a Ternary Asynchronous Multiplexer <i>Walter Dosch (University of Lübeck, Germany) and W. L. Yeung (Lingnan University, Hong Kong)</i>	221
Inconsistencies of CK Metrics And Proposed Methods of Removal <i>Sunint Saini (Guru Nanak Dev Engineering College, India)</i>	229

Towards a Unified Approach for Cross-Platform Software Development <i>Jeffery A. Stuart, Sergiu M. Dascalu and Frederick C. Harris Jr. (University of Nevada, Reno, USA)</i>	235
Dynamic Analysis of Object-Oriented Programs Using State Machines and ECA Rules <i>S. M. Babamir (Kashan University, Iran) and S. Jalili (Tarbiat Modares University, Iran)</i>	243
Hzhr: A Software Package Of Finite Difference Methods For Two-Point Boundary Value Problems <i>H. M. Habib and E. R. El-Zahar (El-Menoufia University, Egypt)</i>	249
Sequence Algorithms for Boundary Value Analysis with Constrained Input Parameters <i>Wenyong Feng (Trent University, Canada) and Zhenhua Zhang (Carnegie Mellon University, USA)</i>	255
A Tool for Test Case Generation and Evaluation <i>Ahmed M. Salem (California State University, Sacramento, USA)</i>	261
Autonomous Requirements Specification Processing using Natural Language Processing <i>S. G. MacDonell, Kyongho Min and A.M. Connor (Auckland University of Technology, New Zealand)</i>	266
Flexibility in Satisfying Intentions in a Situational Context <i>Inès Bayoudh Saâdi, Yassine Jamoussi and Henda Ben Ghezala (Manouba University, Tunisia)</i>	271
Generating a Domain Model from a Use Case Model <i>Nayanamana Samarasinghe and Stéphane S. Somé (University of Ottawa, Canada)</i>	278