2008 International Multiconference on Computer Science and Information Technology

(IMCSIT)

Wisla, Poland
20-22 October 2008

Pages 1-434

IEEE Catalog Number: CFP0864E-PRT
ISBN: 978-8-3608-1014-9

TABLE OF CONTENTS

WORKSHOP ON AGENT BASED COMPUTING V

Agent Architecture for Building Robocode Players with SWI-Prolog 1
Vasile Alaiba, Armand Rotaru

Tackling Complexity of Distributed Systems: Towards an Integration of Service-Oriented Computing and Agent-Oriented Programming 6
Giacomo Cabri, Letizia Leonardi, Raffaele Quitadamo

Connecting Methodologies and Infrastructures in the Development of Agent Systems 13
Giacomo Cabri, Mariachiara Puviani, Raffaele Quitadamo

Adaptation of E xtended Polymorphic Self-Slimming Agent Model Into e-Sourcing Platform 20
Konrad Fuks

The Triple Model: Combining Cutting-Edge Web Technologies with a Cognitive Model in an ECA 25
Maurice Grinberg

Planning and Re-planning in Multi-actors Scenarios by means of Social Commitments 32
Antonin Komenda, Michal Pechoucek, Jir B ba, Jir Vokrinek

Utility-based Model for Classifying Adversarial Behaviour in Multi-Agent Systems 39
Viliam Lisy, Michal Jakob, Jan Tozicka, Michal Pechoucek

An Agent Based System for Distributed Information Management: A Case Study 46
Martijn Warnier, Reinier Timmer, Michel Oey, Frances Brazier, Anja Oskamp

3RD INTERNATIONAL SYMPOSIUM ADVANCES IN ARTIFICIAL INTELLIGENCE AND APPLICATIONS

Applying Differential Evolution to the Reporting Cells Problem 55
Sonia Almeida-Luz

Towards Word Sense Disambiguation of Polish 62
Dominik Bas, Bartosz Broda, Maciej Piasecki

USERING. Educational Self-Tuning-Recommendations in the 8th Level of ISO/OSI Model 68
Miroslaw Bedzak

Sense-Based Clustering of Polish Nouns in the Extraction of Semantic Relatedness 72
Bartosz Broda, Maciej Piasecki, Stanislaw Szpakowicz

An Immune Approach to Classifying the High-Dimensional Datasets 79
Andrzej Chmielewski, Slawomir T. Wierzchon

Application of Clustering and Association Methods in Data Cleaning 85
Lukasz Ciszak

A Rule-Based Approach to Robust Granular Planning 92
Sebastian Ernst, Antoni Ligeza

Support Vector Machines with Composite Kernels for NonLinear Systems Identification 99
Amina El Gonnouni, Abdelouahid Lyhyaoui, Soufiane El Jelali, Manel Mart nez Ramon

The Expert System Approach in Development of Loosely Coupled Software with Use of Domain Specific Language 105
Piotr Grobelny

Coalition Formation in Multi-Agent Systems—An Evolutionary Approach 110
Wojciech Gruszczyk, Halina Kwasnicka

Applying Emphasized Soft Targets for Gaussian Mixture Model Based Classification 116
Soufiane El Jelali, Abdelouahid Lyhyaoui, An bal R. Figueiras-Vidal

Improving Naive Bayes Models of Insurance Risk by Unsupervised Classification 122
Anna Jurek, Danuta Zakrzewska

On a Class of Defuzzification Functionals 130
Witold Kosinski, Wies-aw Piasecki

Assessing the Properties of the World Health Organization's Quality of Life Index 136
Tamar Kakiashvili, Waldemar W. Koczkodaj, Phyllis Montgomery, Kalpdrum Passi, Ryszard Tadeusiewicz

Accuracy Boosting Induction of Fuzzy Rules with Artificial Immune Systems 140
Adam Kalina, Edward Mezyk, Olgierd Unold

On Classification Tools for Genetic Algorithms 145
Stefan Kotowski, Witold Kosinski, Zbigniew Michalewicz, Piotr Synak, Lukasz Brocki

Evolution of Strategy Selection in Games by Means of Natural Selection 149
Daniel L. Kovacs, Tadeusz Dobrowiecki

Image Similarity Detection in Large Visual Data Bases 157
Juliusz L. Kulikowski

Automatic Acquisition of Wordnet Relations by the Morpho-Syntactic Patterns Extracted from the Corpora in Polish 165
Roman Kurc, Maciej Piasecki

Using UML State Diagrams for Visual Modeling of Business Rules 173
Konrad Kulakowski, Grzegorz J. Nalepa

Discovery of Technical Analysis Patterns 179
Urszula Markowska-Kaczmar

A Hybrid Differential Evolution Algorithm to Solve a Real-World Frequency Assignment Problem 185
Marisa Da Silva Maximiano

Hierarchical Rule Design with HaDEs the HeKatE Toolchain 190
Grzegorz J. Nalepa, Igor Wojnicki

On Automation of Brain CT Image Analysis 198
Mariusz Paradowski, Halina Kwasnicka, Martin Tabakov, Jacek Filarski, Marek Sasiadek

Neuronal Groups and Interrelations 204
Michal Pryczek

Semantic Relevance Measure between Resources based on a Graph Structure 211
Sang Keun Rhee, Jihye Lee, Myon-Woong Park

Exclusion Rule-Based Systems—Case Study 219
Marcin Szpyrka

Ontological Matchmaking in a Duty Trip Support Application in a Virtual Organization 225
Michal Szymczak, Grzegorz Frackowiak, Maria Ganzha, Marcin Paprzycki, Sang Keun Rhee, Jihye Lee, Young Tae Sohn, Jae Kwan Kim, Yo-Sub Han, Myon-Woong Park

Computer-aided Detecting of Early Strokes and its Evaluation on the Base of CT Images.....233
Elzbieta Hudyma

COMPUTER ASPECTS OF NUMERICAL ALGORITHMS

A Numerical Algorithm of Solving the Forced sin-Gordon Equation.....238
Alexandre Bezen

Merging Jacobi and Gauss-Seidel Methods for Solving Markov Chains on Computer Clusters.....243
Jaros-aw Bylina, Beata Bylina

Influence of Molecular Models of Water on Computer Simulations of Water Nanoflows.....249
Janusz Bytnar, Anna Kucaba-Pietal, Zbigniew Walenta

A Sparse Shared-Memory Multifrontal Solver in SCAD Software.....256
Sergiy Fialko

Testing Tesla Architecture for Scientific Computing: the Performance of Matrix-Vector Product......263
Pawel Maciol, Krzysztof Banas

Solving a Kind of BVP for Second-Order ODEs Using Novel Data Formats for Dense Matrices.....270
Przemyslaw Stpiczynski

On The Hidden Discrete Logarithm For Some Polynomial Stream Ciphers.....274
Vasyl Ustimenko

Empirically Tuning LAPACK's Blocking Factor for Increased Performance.....279
R. Clint Whaley

COMPUTATIONAL LINGUISTICS-APPLICATIONS

The Impact of Corpus Quality and Type on Topic Based Text Segmentation Evaluation.....288
Alexandre Labadie, Violaine Prince

N-Gram Language Models for Polish Language. Basic Concepts and Applications in Automatic Speech Recognition Systems......295
Bartosz Rapp

SemCAPTCHA—User-Friendly Alternative for OCR-Based CAPTCHA Systems.....299
Pawel Lupkowski, Mariusz Urbanski

Arabic/English Word Translation Disambiguation Approach Based on Naive Bayesian Classifier.....304
Farag Ahmed, Andreas Nurnberger

Smarty-Extendable Framwork for Bilingual and Multilingual Comprehension Assistants.....312
Todor Arnaudov, Ruslan Mitkov

SuperMatrix: a General Tool for Lexical Semantic Knowledge Acquisition.....318
Bartosz Broda, Maciej Piasecki

Definition Extraction: Improving Balanced Random Forests.....326
Lukasz Degorski, Lukasz Kobylinski, Adam Przepiorkowski

An Application Supporting Language Analysis within the Framework of the Phonetic Grammar.....331
Krzysztof Dyczkowski, Norbert Kordek, Pawel Nowakowski, Krzysztof Stronski

Set of Active Suffix Chains and its Role in Development of the MT System for Azerbaijana 335
Rauf Fatullayev, Ali Abbasov, Abulfat Fatullayev

A New Word Sense Similarity Measure in WordNet 341
Ali Sebti

A Linguistic Light Approach to Multilingualism in Lexical Layers for Ontologies 346
Alexander Troussov, John Judge, Mikhail Sogrin, Amine Akrout, Brian Davis, Siegfried Handschuh

Modeling the Frequency of Phrasal Verbs with Search Engines 351
Grazyna Chamielec, Dawid Weiss

8TH INTERNATIONAL MULTIDISCIPLINARY CONFERENCE ON E-COMMERCE AND E-GOVERNMENT

On Stimulus For Citizens' Use Of E-Government Services 360
Cene Bavec

E-Collaboration Platform for the Development of Rural Areas and Enterprises 365
Grzegorz Kolaczek, Adam Turowiec, Witold Holubowicz

Corporate Blogs-Innovative Communication Tool or Another Internet Hype? Empirical Research Study 370
Grzegorz Mazurek

An Examination of Factors Affecting Bidders' Choice in Electronic Auctions 374
Costantinos Rougeris, George S. Androulakis

Integration of Government Services in Semantically Described Processes in the Access-eGov System 381
Marek Skokan, Tomas Sabol, Marian Mach, Karol Furdik

Access-eGov-Personal Assistant of Public Services 386
Magdalena Sroga

In Search of Values in Internet Shopping-Method and Preliminary Research 393
Jacek Wachowicz, Piotr Drygas

V-Commerce: The Potential of Virtual Worlds in Services 397
Urszula Swierczynska-Kaczor

Intermediate Information Layer. The Use Of The SKOS Ontology To Create Information About E-Resources Provided By The Public Administration 401
Wojciech Gorka, Michal Socha, Adam Piasecki, Jakub Ganko

Security Perception in E-Commerce: Conflict Between Customer and Organizational Perspectives 407
Mohanad Halaweh, Christine Fidler

4TH WORKSHOP ON LARGE SCALE COMPUTATIONS ON GRIDS

Unicore 6 as a Platform for Desktop Grid 415
Jakub Jurkiewicz, Krzysztof Nowinski, Piotr Ba-a

Load Balancing in the SOAJA Web Service Platform 420
Richard Olejnik, Iyad Alshabani, Bernard Toursel, Eryk Laskowski, Marek Tudruj

Parallel Performance Prediction for Numerical Codes in a Multi-Cluster Environment 427
Giuseppe Romanazzi, Peter K. Jimack

On the Robustness of the Soft State for Task Scheduling in Large-scale Distributed Computing Environment 435
Harumasa Tada, Makoto Imase, Masayuki Murata

FIRST INTERNATIONAL SYMPOSIUM ON MULTIMEDIA-APPLICATIONS AND PROCESSING

Similar Neighborhood Criterion for Edge Detection in Noisy and Noise-Free Images 443
Ali Awad, Hong Man

Accurate Localization in Short Distance Based on Computer Vision for Mobile Sensors 447
Kwansik Cho, Ha Yoon Song, Jun Park

Character Recognition Using Radon Transformation and Principle Component Analysis in Postal Applications 454
Miroslaw Miciak

The Quasi-One-Way Function and Its Applications to Image Watermarking 460
Kazuo Ohzeki, Engyoku Gi

Question Generation for Learning Evaluation 468
Liana Stanescu, Cosmin Stoica Spahiu, Anca Ion, Andrei Spahiu

INTERNATIONAL CONFERENCE ON PRINCIPLES OF INFORMATION TECHNOLOGY AND APPLICATIONS

Correctness Issues of UML Class and State Machine Models in the C# Code Generation and Execution Framework 474
Anna Derezinska, Romuald Pilitowski

Designing New XML Based Multidimensional Messaging Interface For The New XWarehouse Architecture 482
Ahmed Bahaa Farid, Ahmed Sharaf Aldin Ahmed, Yehia Mostafa Helmy

PAFSV: A Process Algebraic Framework for SystemVerilog 492
K. L. Man

Dealing with Redundancies and Dependencies in Normalization of XML Data 500
Tadeusz Pankowski, Tomasz Pilka

Separation of Crosscutting Concerns at the Design Level: An Extension to the UML Metamodel. 508
Adam Przybylek

Distributed Internet Systems Modeling Using TCPNs 515
Tomasz Rak, Slawomir Samolej

INTERNATIONAL WORKSHOP ON REAL TIME SOFTWARE

Real Time Behavior of Data in Distributed Embedded Systems 525
Tanguy Le Berre, Philippe Mauran, Gerard Padiou, Philippe Queinnec

CompactRIO Embedded System in Power Quality Analysis 532
Petr Bilik, Ludvik Koval, Jiri Hajduk

Real-Time Task Reconfiguration Support Applied to an UAV-Based Surveillance System 536
Alecio Pedro Delazari Binotto

Student's Contest: Self-Driven Slot Car Racing 544
Milan Brejl, Jaroslav Necesany

Real-Time Support in Adaptable Middleware for Heterogeneous Sensor Networks 548
Edison Pignaton De Freitas, Marco Aurelio Wehrmeister, Carlos Eduardo Pereira, Tony Larsson

Embedded Control Systems Design Based on RT-DEVS and Temporal Analysis using UPPAAL 556
Angelo Furfaro, Libero Nigro

Study of Different Load Dependencies Among Shared Redundant Systems 564
Jan Galdum

Runtime Resource Assurance And Adaptation With Qinna Framework: A Case Study 571
Laure Gonnord, Jean-Philippe Babau

Real-Time Control Teaching Using LEGO© MINDSTORMS© NXT Robot 579
Wojciech Grega, Adam Pilat

A Safety Shell for UML-RT Projects 583
Roman Gumzej, Wolfgang A. Halang

An RSIC-SE2004 Curriculum Framework 587
Thomas B. Hilburn, Andrew Kornecki, Jean-Marc Thiriet, Wojciech Grega, Miroslav Sveda

You Can't Get There From Here! Problems and Potential Solutions in Developing New Classes of Complex Computer Systems 593
Michael G. Hinchey, James L. Rash, Walter F. Truszkowski, Roy Sterritt, Christopher A. Rouff

Minos—The Design and Implementation of an Embedded Real-Time Operating System with a Perspective of Fault Tolerance 602
Thomas Kaegi-Trachsel, Juerg Gutknecht

Simulator Generation Using an Automaton Based Pipeline Model for Timing Analysis 610
Rola Kassem, Mikael Briday, Jean-Luc Bechennec, Yvon Trinquet, Guillaume Savaton

Software Certification for Safety-Critical Systems: A Status Report 618
Andrew Kornecki

Modeling Real-Time Database Concurrency Control Protocol Two-Phase-Locking in Uppaal 626
Martin Kot

Distributed Scheduling for Real-Time Railway Traffic Control 632
Tiberiu Letia, Mihai Hulea, Radu Miron

Wireless Sensor and Actuator Networks: Characterization and Case Study for Confined Spaces Healthcare Applications 639
Diego Martinez, Francisco Blanes, Jose Simo, Alfons Crespo

Real-Time Service-Oriented Communication Protocols on Resource Constrained Devices 646
Guido Moritz, Steffen Pruter, Dirk Timmermann, Frank Golatowski

Task Jitter Measurement Under RTLinux and RTX Operating Systems, Comparison of RTLinux and RTX Operating Environments 653
Pavel Moryc, Jindrich Cernohorsky

Multilevel Localization for Mobile Sensor Network Platforms 660
Jae Young Park, Ha Yoon Song

A Component-Based Approach to Verification of Embedded Control Systems using TLA 668
Ondrej Rysavy, Jaroslav Rab

Algorithm for Real Time Faces Detection in 3D Space 675
Rauf Kh. Sadykhov, Denis V. Lamovsky

Reliability of Malfunction Tolerance.....681
Igor Schagaev

Rapid Control Prototyping with Scilab/Scicos/RTAI for PC-Based and ARM-Based Platforms.....686
Skiba Grzegorz, Zabinski Tomasz, Bozek Andrzej

Development of a Flight Control System for an Ultralight Airplane.....692
Vilem Srovnal Jr., Jiri Kotzian

Towards Self-Managing Real-Time Systems.....698
Roy Sterrit, Mike Hinchey

IEC Structured Text Programming of a Small Distributed Control System.....704
Dariusz Rzonca, Jan Sadolewski, Andrzej Stec, Zbigniew Swider, Bartosz Trybus, Leszek Trybus

Web-Based Laboratories: How Does That Affect Pedagogy? Thoughts for a Panel Discussion.....708
Janusz Zalewski

Improving Energy-Efficient Real-Time Scheduling by Exploiting Code Instrumentation.....710
Thorsten Zitterell, Christoph Scholl

3RD INTERNATIONAL WORKSHOP ON SECURE INFORMATION SYSTEMS

A Context-Risk-Aware Access Control Model for Ubiquitous Environments.....720
Ali Ahmed, Ning Zhang

User Behaviour Based Phishing Websites Detection.....728
Xun Dong, John A. Clark, Jeremy L. Jacob

A New Worm Propogation Threat in BitTorrent: Modeling and Analysis.....736
Sinan Hatahet, Abdelmadjid Bouabdallah, Yacine Challal

Information System Security Compliance to FISMA Standard: A Quantitative Measure.....744
Elaine Hulitt, Rayford B. Vaughn Jr.

Analysis of Different Architectures of Neural Networks for Application in Intrusion Detection Systems.....752
Przemyslaw Kukielka, Zbigniew Kotulski

A Semantic Framework for Privacy-Aware Access Control.....757
Georgios V. Lioudakis, Nikolaos L. Dellas, Eleftherios A. Koutsoloukas, Georgia M. Kapitsaki, Dimitra I. Kaklamani, Iakovos S. Venieris

Access Control Models in Heterogeneous Information Systems: from Conception to Exploitation.....765
Aneta Poniszewska-Maranda

A Semantic Aware Access Control Model with Real Time Constraints on History of Accesses.....771
Ali Noorollahi Ravari, Morteza Amini, Rasool Jalili

Network-Level Properties of Modern Anonymity Systems.....781
Marta Rybczynska

Performance Evaluation of a Machine Learning Algorithm for Early Application Identification.....788
Giacomo Verticale, Paolo Giacomazzi

WORKSHOP ON WIRELESS AND UNSTRUCTURED NETWORKING: TAMING THE STRAY

Supporting Wireless Application Development Via Virtual Execution 794
Nicholas M. Boers, Pawel Gburzynski, Ioanis Nikolaidis, Wlodek Olesinski

Wireless Ad-Hoc Networks: Where Security, Real-Time and Lifetime Meet 802
Zdravko Karakehayov

A Method of Mobile Base Station Placement for High Altitude Platform Based Network with Geographical Clustering of Mobile Ground Nodes 810
Ha Yoon Song

Energy Efficient Percolation-Driven Flodd Routing for Large-Scale Sensor Networks 818
Gergely Vakulya, Gyula Simon

WORKSHOP ON COMPUTATIONAL OPTIMIZATION

Ant Colony System Approach for Protein Folding 826
Stefka Fidanova, Ivan Lirkov

Estimating Time Series Future Optima Using A Steepest Descent Methodology As A Backtracker 831
Eleni G. Lisgara, George S. Androulakis

On A Class Of Periodic Scheduling Problems: Models, Lower Bounds And Heuristics 837
Philippe Michelon, Dominique Quadri, Marcos Negreiros

Visualizing Multi-Dimensional Pareto-Optimal Fronts with a 3D Virtual Reality System 845
Elina Madetoja, Henri Ruotsalainen, Veli-Matti Monkkonen, Jari Hamalainen, Kalyanmoy Deb

Communication Network Design Using Particle Swarm Optimization 852
C. Papagianni, K. Papadopoulos, C. Pappas, N. D. Tselikas, D. T. Kaklamani, I. S. Venieris

Two Stages Optimization Problem: New Variant of Bin Packing Problem for Decision Making 858
Ahmad Shraideh, Hervé Camus, Pascal Yim

Adaptive Differential Evolution and Exponential Crossover 863
Josef Tvrdik

Solving IK Problems For Open Chains Using Optimization Methods 868
Krzysztof Zmorzynski

Author Index