

2012 7th IEEE International Symposium on Applied Computational Intelligence and Informatics

(SACI 2012)

**Timisoara, Romania
24 – 26 May 2012**



**IEEE Catalog Number: CFP1245C-PRT
ISBN: 978-1-4673-1013-0**

Table of Contents

Committees	8
General information.....	10
Reasoning Aspects in Decision Making for Medical Diagnosis	11
<i>Hamido Fujita</i>	
Iwate Prefectural University, Iwate, Japan	
Electrical Power Monitoring and Control in 13C Isotope Separation Column Boiler.....	13
<i>A. O. Neaga*, C. Festila*, E. H. Dulf*, T. Szelitzky*, R. Both*, C. I. Pop* and M. Gligan**</i>	
* Technical University of Cluj Napoca, Romania, ** National Institute for Research and Development of Isotopic and Molecular Technologies/Department of Isotope; Separation and Labeled Compounds, Cluj Napoca, Romania	
Robust Control of the 15N Isotope Separation Column.....	19
<i>R. Both, E.-H. Dulf, A. O. Neaga and C. P. Darab</i>	
Technical University of Cluj-Napoca, Romania	
Hybrid Fuzzy Controllers for Non-Minimum Phase Systems	23
<i>Radu-Emil Precup, Stefan Preitl, Alexandra-Iulia Stinean, Claudia-Adina Dragos and Mircea-Bogdan Radac</i>	
„Politehnica” University of Timisoara, Timisoara, Romania	
Control of the Blunting Process of the Residual Water from a Foundry.....	29
<i>V. Muresan, M. Abrudean, M. L. Unguresan and T. Colosi</i>	
Technical University of Cluj-Napoca, Cluj-Napoca, Romania	
A Fault Tolerant Control Strategy for Ship Stabilization Using Ballast Systems	35
<i>Catalin Bara, Mihai Cornoiu, Dumitru Popescu</i>	
„Politehnica” University of Bucharest, Romania	
Finger-based Gesture Control of a Collaborative Online Workspace	41
<i>Cristian Gadea, Bogdan Ionescu, Dan Ionescu, Shahidul Islam, Bogdan Solomon</i>	
University of Ottawa, Mgestyk Technologies, Ottawa, Ontario, Canada	
MAGIKMAIDS: Mobile Agents for In-Kernel Monitoring, Assessment and Intervention in Distributed Systems.....	47
<i>Cristian Dinu, Laura-Cristina Gheorghe, Nicolae Tapus</i>	
University „Politehnica” of Bucharest, Romania	
Design and Integration of ICT Tools for OCOPOMO Policy Modelling Approach	53
<i>P. Bednar*, P. Butka*, K. Furdik**, M. Mach*, P. Smatana**</i>	
* Technical University of Kosice, Slovakia, ** Intersoft, a.s., Kosice, Slovakia	
Using the Gram-Charlier Expansion in Power Systems Reliability	59
<i>F. Coroiu, I. Bucatariu and A. Baloi</i>	
„Politehnica” University of Timisoara, Timisoara, Romania	
Shortest-Path based Model for Warehouse Inner Transportation Optimization	63
<i>D. Dobrilovic*, V. Jevtic*, I. Beker** and Z. Stojanov*</i>	
* University of Novi Sad/Technical Faculty „Mihajlo Pupin”, Zrenjanin, Serbia, ** University of Novi Sad/Faculty of Technical Sciences, Novi Sad, Serbia	
Viewpoint Normalized Images for Feature-based Landmark Detection	69
<i>V. Kovács, G. Tevesz</i>	
Budapest University of Technology, Budapest, Hungary	
A Robust Parallel Thinning Algorithm for Pattern Recognition	75
<i>Peter Tarabek</i>	
University of Zilina, Slovakia	
Object Recognition on Satellite Images with Biologically-Inspired Computational Approaches	81
<i>M. I. Sina, P. Payeur and A.-M. Cretu</i>	
University of Ottawa/Electrical Engineering and Computer Science, Ottawa, Canada	

High Capacity Steganographic Algorithm Based on Payload Adaptation and Optimization	87
<i>Septimiu Fabian Mare, Mircea Vladutiu and Lucian Prodan</i>	
„Politehnica” University of Timisoara, Romania	
Uncertainty of Minimum-Zone Straightness and Surface Plate Flatness Measurement	93
<i>Gyula Hermann</i>	
Óbuda University, Budapest, Hungary	
ModeRator - a Software Tool for Comparison of Stoichiometric Models.....	97
<i>Martins Mednis and Zintis Rove*, Vytautas Galvanauskas**</i>	
*Latvia University of Agriculture, Jelgava, Latvia, **Kaunas University of Technology, Lithuania	
Experimental Study on Time Complexity of GOSCL Algorithm for Sparse Data Tables.....	101
<i>P. Butka*, J. Pócsova** and J. Pócs**, ***</i>	
*Faculty of Economics, Technical University of Kosice, Kosice, Slovakia	
**Institute of Control and Informatization of Production Processes, BERG Faculty, Technical University of Kosice, Kosice, Slovakia	
***Mathematical Institute, Slovak Academy of Sciences, Kosice, Slovakia	
Faceless Componentization Versus Componentization with Assistance Class in Web Dynpro ABAP	107
<i>M. Osaci*, A. D. Berdie*, G. Prostean** and A. A. Pop**</i>	
*„Politehnica” University of Timisoara, Hunedoara, Romania, **„Politehnica” University of Timisoara, Timisoara, Romania	
A Case-Study about a Web Business Application Implemented in Different SAP UI Technologies.....	111
<i>A. D. Berdie*, M. Osaci*, I. Muscalagiu* and G. Prostean**</i>	
*Politehnica University of Timisoara, Hunedoara, Romania, **Politehnica University of Timisoara, Timisoara, Romania	
A Model of Translation Management Systems for Multilingual Documents.....	115
<i>M. H. Traicu and G. Prostean</i>	
Politehnica University of Timisoara, Timisoara, Romania	
Fuzzy Rule Interpolation Developer Toolbox Library	119
<i>Zoltán Krizsán, Szilveszter Kovács</i>	
University of Miskolc, Miskolc, Hungary	
Embedding Gravitational Search Algorithms in Convolutional Neural Networks for OCR Applications.....	125
<i>Lucian-Ovidiu Fedorovici, Radu-Emil Precup, Florin Dragan, Radu-Codrut David, Constantin Purcaru</i>	
„Politehnica” University of Timisoara, Timisoara, Romania	
Searching for a Nonlinear ODE Model of Vehicle Crash with Genetic Optimization	131
<i>András Horváth, Miklós F. Hatwágner, István Á. Harmati</i>	
Széchenyi István University, Győr, Hungary	
Fuzzy Reasoning for Medical Diagnosis-based Aggregation on Different Ontologies	137
<i>Hamido Fujita*, Imre J. Rudas**, János Fodor**, Masaki Kurematsu* and Jun Hakura*</i>	
*Iwate Prefectural University, Japan, **Óbuda University, Budapest, Hungary	
Long Life Oriented Smart Control of Heating Body.....	147
<i>György Györök, Attila Sáfár</i>	
Óbuda University, Székesfehérvár, Hungary	
A Modified Fast block LMS Acoustic Feedback Cancellation for Hearing Aids.....	151
<i>H. Charafeddine, V. Groza</i>	
University of Ottawa, Canada	
Improving the Interoperability of Healthcare Information Systems through HL7 CDA and CCD Standards	157
<i>M. Vida, O. Lupse and L. Stoicu-Tivadar</i>	
University „Politehnica” Timisoara, Timisoara, Romania	
Vascular System Reconstruction from MR Images Using Active Appearance Model.....	163
<i>S. M. Szilágyi, C. Enachescu</i>	
Petru Maior University, Târgu Mures, Romania	
A Model of the Control Function in the Case of Constant Effort of the Cardiovascular System.....	169
<i>A. M. Dan and T. L. Dragomir</i>	
„Politehnica” University of Timisoara, Timisoara, Romania	

Ergonomic Analysis on Driving an Automatic Gearbox Equipped Vehicle	175
<i>I. S. Borozan, I. Maniu, R. M. Kulcsar, V. Argesanu</i>	
Politehnica University of Timisoara, Timisoara, Romania	
Flat Control of Tumor Growth with Angiogenic Inhibition	179
<i>Dániel A. Drexler*, Johanna Sápi*, Annamária Szeles*, István Harmati*, Adalbert Kovács** and Levente Kovács*</i>	
* Budapest University of Technology and Economics, Hungary, ** „Politehnica” University of Timisoara, Romania	
A Traffic Engineering Algorithm for Differentiated Multicast Services over MPLS Networks	185
<i>Toni Barabas, Dan Ionescu, Stejarel Veres</i>	
University of Ottawa, Canada	
Automated EA-type Question Generation from Annotated Texts	191
<i>László Bednarik, László Kovács</i>	
University of Miskolc, Hungary	
Improved File-Carving Through Data-Parallel Pattern Matching for Data Forensics	197
<i>Ciprian Pungila</i>	
West University of Timisoara, Romania	
Clustering of Text Documents by Projective Dimension of Subspaces using PART Neural Network	203
<i>R. Krakovsky* and I. Mokris**</i>	
* Catholic University, Ruzomberok, Slovakia, ** Institute of Informatics, Slovak Academy of Sciences, Bratislava, Slovakia	
Inequalities between the Relational Result Sets Cardinalities in Random Databases	209
<i>L. Velcescu and L. Vasile</i>	
University of Bucharest, Bucharest, Romania	
Probability Estimation of Certain Properties of the Imperfect Systems	213
<i>Dragan Antic, Zoran Jovanovic, Nikola Dankovic, Miodrag Spasic, and Stanko Stankov</i>	
University of Nis, Serbia	
Fuzzy Sliding Mode Control for Anti-lock Braking Systems	217
<i>Darko Mitic, Dragan Antic, Stanisa Peric, Marko Milojkovic, and Sasa Nikolic</i>	
University of Nis, Serbia	
Maintenance of Complex Automated Systems	223
<i>Attila L. Bencsik, József Gáti, Gyula Kártyás</i>	
Óbuda University, Budapest, Hungary	
New Approximation Algorithm for the Force of Fluidic Muscles	229
<i>J. Sárosi</i>	
University of Szeged, Szeged, Hungary	
A Multinomial - Hidden Markov Model for Communication Systems Influenced by External Factors	235
<i>Marina Cidota, Monica Dumitrescu</i>	
University of Bucharest, Romania	
Cloud-based Classification of Text Documents Using the Gridgain Platform	241
<i>M. Sarnovsky, T. Kacur</i>	
Technical University in Kosice, Slovak Republic	
New Challenges for Application of Robotics and Automation in Space Research	247
<i>Antal K. Bejczy</i>	
Senior Research Scientist, CALTECH/JPL, Pasadena, California, USA	
Software Architecture for Semantically Enhanced Composition of Geoservices in Cadastral Systems	249
<i>Dubravka Sladic, Miro Govedarica and Aleksandra Ristic</i>	
University of Novi Sad, Novi Sad, Serbia	
HMail: A Hybrid Mailing System Based on the Collaboration between Traditional and Peer-to-Peer Mailing Architectures	255
<i>Patrik Emanuel Mezo, Mircea Vladutiu and Lucian Prodan</i>	
„Politehnica” University of Timisoara, Romania	

A Survey of Management Interfaces for Eucalyptus Cloud	261
<i>A. M. Lonea*</i> , <i>D. E. Popescu**</i> and <i>O. Prostean*</i>	
* „Politehnica” University of Timisoara, Timisoara, Romania, ** University of Oradea, Oradea, Romania	
Simplified Selective Fault Tolerance Technique for Protection of Selected Inputs via Triple Modular Redundancy Systems	267
<i>L. Agnola*</i> , <i>M. Vladutiu*</i> , <i>M. Udrescu*</i> , <i>L. Prodan*</i>	
* „Politehnica” University of Timisoara, Romania, ** Carnegie Mellon University, Pittsburgh, PA, USA	
Adaptive Actions Replace Human Interactions at Product Modeling	273
<i>László Horváth and Imre J. Rudas</i>	
Óbuda University, Budapest, Hungary	
Determination of Transport Network Topology Influence of Traffic Characteristics	279
<i>I. M. Haragos, C. Cernazanu-Glavan</i>	
Politehnica University of Timisoara, Timisoara, Romania	
Testing DTF Method for Applicability in a Real Environment.....	285
<i>E. C. Sasu, O. Prostean</i>	
„Politehnica” University, Timisoara, Romania	
Network Simulation for MAC Spoofing Detection, using DTF Method.....	291
<i>E. C. Sasu, O. Prostean</i>	
„Politehnica” University, Timisoara, Romania	
Context-Aware Unified Communication	297
<i>Nadia Ghiata*</i> , <i>Vladimir Cretu**</i> and <i>Marius Marcu**</i>	
*Lasting Software, Timisoara, Romania, **“Politehnica” University of Timisoara, Timisoara, Romania	
SAP Remote Communications	303
<i>A. Selmeçi, T. Orosz</i>	
Óbuda University, Székesfehérvár, Hungary	
The Use of Animations in Teaching Technical Drawing	311
<i>Rita Osz, Róbert Kovács</i>	
Óbuda University, Székesfehérvár, Hungary	
Integrated Methodology for a Future Expert System used in Low Back Pain Management	315
<i>M. Toth-Tascau*</i> , <i>D. I. Stoia*</i> and <i>D. Andrei**</i>	
* Politehnica University of Timisoara, Timisoara, Romania, ** University of Medicine and Pharmacy Timisoara, Timisoara, Romania	
Using Web Conference System during the Consultation Hours	321
<i>Gábor Kiss</i>	
Óbuda University, Budapest, Hungary	
Dynamic Textures Indexing Using the Co-occurrence Matrix Features.....	327
<i>M. Mocofan and R. Vásiu</i>	
„Politehnica” University of Timisoara, Timisoara, Romania	
Code Compression and Runtime Code Decompression in Embedded Systems.....	331
<i>A.B. Aurel Dumitru, C. Alexandra Popu</i>	
SC Continental Automotive SRL / P ES, Timisoara, Romania	
Issues about Asynchronous Generator’s Excitation in Wind Aggregates	337
<i>C. Koch-Ciobotaru, I. Szeidert, I. Filip and C. Vasar</i>	
„Politehnica” University from Timisoara, Romania	
Simulation Model developed for a Small-Scale PV System in Distribution Networks	341
<i>C. Koch-Ciobotaru*</i> , <i>L. Mihet-Popa*</i> , <i>F. Isleifsson**</i> and <i>H. Bindner**</i>	
* Politehnica University, Timisoara, Romania, ** Denmark Technical University, Roskilde, Denmark	
Modeling and Optimized Control of Photovoltaic Energy Conversion Systems.....	347
<i>O. Gana, O. Prostean, C. Vasar and M. Babescu</i>	
„Politehnica” University of Timisoara, Romania	

Pragmatic Control Strategy Design Method for a Small Windgenerator.....	353
<i>R. Boraci, I. Filip, N. Budisan and M. Greconici</i>	
„Politehnica” University of Timisoara, Timisoara, Romania	
Dynamics of the Diesel-Wind System with Asynchronous Generators	359
<i>M. Babescu, C. Sorandaru, S. Musuroi and M. Svoboda</i>	
Politehnica University of Timisoara, Romania	
Simulation of MNOS Memory Hysteresis - Effect of Layer Thicknesses.....	365
<i>K. Z. Molnár*, and Zs. J. Horváth**</i>	
* Óbuda University, Budapest, Hungary, ** Hungarian Academy of Sciences, Research Centre for Natural Sciences, Budapest, Hungary	
Business Process Reengineering project in Local Governments with ERP.....	371
<i>István Orosz*, Tamás Orosz**</i>	
* Óbuda University, Budapest, Hungary, ** Óbuda University, Székesfehérvár, Hungary	
HSDPA Delay Analysis in Live Networks Using VoIP Traffic from End User Perspective.....	377
<i>Viktor Rébay</i>	
Óbuda University, Doctoral School of Applied Informatics, Budapest, Hungary; and University of Pécs, Hungary	
UML Profile for Cyber-Physical System Wireless Communication Specification	383
<i>Gabriela Magureanu, Madalin Gavrilescu, Dan Pescaru and Ionel Jian</i>	
„Politehnica” University of Timisoara, Romania	
VS-type Stabilization of MRAC Controllers Using Robust Fixed Point Transformations.....	389
<i>Teréz A. Várkonyi, József K. Tar, Imre J. Rudas, István Krómer</i>	
Óbuda University, Budapest, Hungary	
Novel Fuzzy Approach for Ranking Test Vectors	395
<i>Gergely Takács</i>	
Óbuda University, Budapest, Hungary	
Parameters Control of a Spark Ignition Engine through Programmable ECU for Specific Regimes.....	399
<i>I. Hiticas*, D. Marin**, L. Mihon*, E. Resiga* and D. Iorga*</i>	
**„Politehnica” University of Timisoara, Timisoara, Romania, **HautesEtudes’Ingénieur, Lille, France	
Admissible Modeling Disturbances for the Control of a Road Sector	405
<i>Catalin Dimon, Dumitru Popescu</i>	
University Politehnica of Bucharest, Bucharest, Romania	
On Scaling Properties of the Dispersion Diagram of a Multi-Scale Printed Surface Embedded in a Parallel-Plate Waveguide.....	411
<i>A. De Sabata* and L. Matekovits**</i>	
* „Politehnica” University of Timisoara, Timisoara, Romania, ** Politecnico di Torino, Torino, Italy	
Analysis of One Cycle Controlled SEPIC Converters.....	415
<i>Mircea Gurbina, Dan Lascu</i>	
Politehnica University of Timisoara, Timisoara, Romania	
Theory Exploration in Theorema: Case Study on Lists.....	421
<i>Isabela Dramnesc*, Tudor Jebelean**</i>	
*West University, Timisoara, Romania, **Johannes Kepler University, Linz, Austria	
Online Informatics Application for Managing Payments and Time for Individuals.....	427
<i>Serban Popa, Gabriela Ioana Prostean</i>	
„Politehnica” University, Timisoara, România	
Piloting a Multi-Regional Master Programme in eActivities	433
<i>Radu Vasii, Diana Andone, Andrei Ternauciuc and Marian Bucos</i>	
Politehnica University of Timisoara, Romania	
Design and Fabrication of a Smart Electronic Guide for Museums.....	439
<i>Majed Rostamian, Maryam Parsa, Voicu Groza</i>	
University of Ottawa, Ontario, Canada	