International Journal on Advances in Intelligent Systems

















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© (2012) by International Academy, Research, and Industry Association (IARIA) Please refer to the Copyright Information page.

Printed by Curran Associates, Inc. (2013)

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

CONTENTS

pages: 220 - 233

An Efficient Bi-Dimensional Indexing Scheme for Three-Dimensional Trajectories

Antonio d'Acierno, Institute of Food Science - National Research Council of Italy, Italy Marco Leone, DIEII - University of Salerno, Italy Alessia Saggese, DIEII - University of Salerno, Italy Mario Vento, DIEII - University of Salerno, Italy

pages: 234 - 246

Multiple Similarities for Diversity in Recommender Systems

Laurent Candillier, Ebuzzing - OverBlog, France Max Chevalier, IRIT, France Damien Dudognon, IRIT / Ebuzzing - OverBlog, France Josiane Mothe, IRIT, France

pages: 247 - 260

The Environment – Application – Adaptation (EAA) Architecture: Introduction and Details of an Open Implementation

Rémi Emonet, Idiap Research Institute, Switzerland

pages: 261 - 277

Rich Annotation Guided Learning

Xiang Li, Queens College, City University of New York, United States
Heng Ji, Queens College and Graduate Center, City University of New York, United States
Faisal Farooq, Innovation Center, Siemens Medical Solutions, United States
Hao Li, Graduate Center, City University of New York, United States
Wen-Pin Lin, Queens College, City University of New York, United States
Shipeng Yu, Innovation Center, Siemens Medical Solutions, United States

pages: 278 - 290

Assessment Models and Qualitative and Symbolic Analysis Techniques for an Electrical Circuits eTutor

Adrian Muscat, University of Malta, Malta

Jason Debono, Malta College of Arts, Science and Technology, Malta

pages: 291 - 301

Automated IT Management using Ontologies

Andreas Textor, RheinMain University of Applied Sciences, Germany Fabian Meyer, RheinMain University of Applied Sciences, Germany Reinhold Kroeger, RheinMain University of Applied Sciences, Germany

pages: 302 - 314

Parallel SPARQL Query Processing Using Bobox

Zbynek Falt, Charles University Prague, Czech Republic Miroslav Cermak, Charles University Prague, Czech Republic Jiri Dokulil, Charles University Prague, Czech Republic Filip Zavoral, Charles University Prague, Czech Republic pages: 315 - 327

Fuzzy Query Propagation in Sensor Networks

Mohamed Bakillah, Rupprecht-Karls-Universität, Institute for GI-Science, Berliner Straße 48, D-69120, Heidelberg, Germany, Germany

Steve H.L Liang, Department of Geomatics Engineering University of Calgary, 2500 University Dr. NW, Canada, Canada

Mir Abolfazl Mostafavi, Geomatic Research Center, Laval University, 1055, avenue du Séminaire, Québec, Canada, Canada

Alexander Zipf, Rupprecht-Karls-Universität, Institute for GI-Science, Berliner Straße 48, D-69120, Heidelberg, Germany, Germany

Jamal Jokar Arsanjani, Rupprecht-Karls-Universität, Institute for GI-Science, Berliner Straße 48, D-69120, Heidelberg, Germany, Germany

pages: 328 - 340

Enhancing Environment Perception for Cooperative Power Control: an Experimental Perspective

Panagiotis Spapis, National and Kapodistrian University of Athens, Greece George Katsikas, National and Kapodistrian University of Athens, Greece Konstantinos Chatzikokolakis, National and Kapodistrian University of Athens, Greece Roi Arapoglou, National and Kapodistrian University of Athens, Greece Makis Stamatelatos, National and Kapodistrian University of Athens, Greece Nancy Alonistioti, National and Kapodistrian University of Athens, Greece

pages: 341 - 356

An Interoperability Service for Autonomic Systems

Richard Anthony, University Of Greenwich, UK Mariusz Pelc, University Of Greenwich, Uk Haffiz Shuaib, University Of Greenwich, UK

pages: 357 - 369

A Metaheuristic Particle Swarm Optimization Approach to Nonlinear Model Predictive Control

Julian Mercieca, University of Malta, Malta Simon G. Fabri, University of Malta, Malta

pages: 370 - 383

Towards Certifiable Autonomic Computing Systems Part I: A Consistent and Scalable System Design

Haffiz Shuaib, The University of Greenwich., United Kingdom Richard Anthony, The University of Greenwich., United Kingdom

pages: 384 - 399

Towards Certifiable Autonomic Computing Systems Part II: Measuring and Rating Autonomic Computing Systems

Haffiz Shuaib, The University of Greenwich., United Kingdom Richard Anthony, The University of Greenwich., United Kingdom

pages: 400 - 414

Educational Video Game Design Based on Educational Playability: A Comprehensive and Integrated Literature Review

Amer Ibrahim, University of Granada, spain Francisco Luis Gutiérrez Vela, University of Granada, spain Patricia Paderewski Rodríguez, University of Granada, spain José Luís González Sánchez, University of Granada, spain Natalia Padilla Zea, University of Granada, spain pages: 415 - 426

Rapid Energy Consumption Pattern Detection with In-Memory Technology

Christian Schwarz, Hasso Plattner Institute, University of Potsdam, Germany Felix Leupold, Hasso Plattner Institute, University of Potsdam, Germany Tobias Schubotz, Hasso Plattner Institute, University of Potsdam, Germany Tim Januschowski, SAP Innovation Center Potsdam, Germany Hasso Plattner, Hasso Plattner Institute, University of Potsdam, Germany

pages: 427 - 440

Involving All Stakeholders in the Development of TV Applications for Elderly

José Coelho, University of Lisbon, Portugal Pradipta Biswas, University of Cambridge, UK Carlos Duarte, University of Lisbon, Portugal Tiago Guerreiro, University of Lisbon, Portugal Pat Langdon, University of Cambridge, UK Pedro Feiteira, University of Lisbon, Portugal Daniel Costa, University of Lisbon, Portugal David Costa, University of Lisbon, Portugal Bruno Neves, University of Lisbon, Portugal Fernando Alves, University of Lisbon, Portugal

pages: 441 - 450

The impact of workload on energy efficiency of virtualized systems

Jukka Kommeri, Helsinki Institute of Physics, Technology program, Cern, Switzerland Tapio Niemi, Helsinki Institute of Physics, Technology program, Cern, Switzerland Olli Helin, Helsinki Institute of Physics, Technology program, Cern, Switzerland

pages: 451 - 469

Energy and Carbon Aware Scheduling in Supercomputing

Mikko Majanen, VTT Technical Research Centre of Finland, Finland Olli Mämmelä, VTT Technical Research Centre of Finland, Finland André Giesler, Forschungszentrum Jülich, Germany

pages: 470 - 482

Towards the Live City – Paving the Way to Real-time Urbanism

Bernd Resch, MIT and University of Heidelberg, USA and Germany Alexander Zipf, University of Heidelberg, Germany Euro Beinat, University of Salzburg, Austria Philipp Breuss-Schneeweis, Wikitude GmbH, Austria Marc Boher, Urbiotica, Spain

pages: 483 - 492

A Generic Data Processing Framework for Heterogeneous Sensor-Actor-Networks

Matthias Vodel, Chemnitz University of Technology, GERMANY Rene Bergelt, Chemnitz University of Technology, GERMANY Wolfram Hardt, Chemnitz University of Technology, GERMANY

pages: 493 - 517

Beyond the Zermelo-Fraenkel Axiomatic System: BSDT Primary Language and its Perspective Applications Petro Gopych, Universal Power Systems USA-Ukraine LLC, Ukraine

pages: 518 - 532

IEEE 802.11g Radio Coverage Study for Indoor Wireless Network Redesign

Sandra Sendra, Universidad Politecnica de Valencia, Spain Diana Bri, Universidad Politecnica de Valencia, Spain Emilio Granell, Universidad Politecnica de Valencia, Spain Jaime Lloret, Universidad Politecnica de Valencia, Spain

pages: 533 - 552

Enabling User Involvement in Trust Decision Making for Inter-Enterprise Collaborations

Puneet Kaur, University of Helsinki, Department of Computer Science, Finland Sini Ruohomaa, University of Helsinki, Department of Computer Science, Finland Lea Kutvonen, University of Helsinki, Department of Computer Science, Finland

pages: 553 - 566

A Generic Approach towards Measuring Level of Autonomicity in Adaptive Systems

Thaddeus Eze, University of Greenwich, UK Richard Anthony, University of Greenwich, UK Chris Walshaw, University of Greenwich, UK Alan Soper, University of Greenwich, UK

pages: 567 - 576

Concepts and Mechanics for Educational Mini-Games A Human-Centred Conceptual Design Approach involving Adolescent Learners and Domain Experts

Bieke Zaman, CUO | Social Spaces, KU Leuven / iMinds, Belgium Yorick Poels, CUO | Social Spaces, KU Leuven / iMinds, Belgium Nicky Sulmon, CUO | Social Spaces, KU Leuven / iMinds, Belgium Jan-Henk Annema, CUO | Social Spaces, KU Leuven / iMinds, Belgium Mathijs Verstraete, CUO | Social Spaces, KU Leuven / iMinds, Belgium Frederik Cornillie, ITEC, KU Leuven/ iMinds, Belgium Dirk De Grooff, CUO | Social Spaces, KU Leuven / iMinds, Belgium Piet Desmet, ITEC, KU Leuven/ iMinds, Belgium