

Fernando De la Prieta · Zita Vale

Luis Antunes · Tiago Pinto

Andrew T. Campbell · Vicente Julián

Antonio J.R. Neves · María N. Moreno *Editors*

Trends in Cyber-Physical Multi-Agent Systems. The PAAMS Collection - 15th International Conference, PAAMS 2017

Contents

Special Session on Agent-Based Social Simulation, Modelling and Big-Data Analytics (ABM) + Persuasive Technologies (PT)	
A Network-Oriented Modeling Approach to Voting Behavior During the 2016 US Presidential Election	3
Linford Goedschalk, Jan Treur, and Roos Verwolf	
Understanding Homophily and More-Becomes-More Through Adaptive Temporal-Causal Network Models	16
Sven van den Beukel, Simon H. Goos, and Jan Treur	
Towards a Framework for Agent-Based Simulation of User Behaviour in E-Commerce Context	30
Duarte Duarte, Hugo Sereno Ferreira, João Pedro Dias, and Zafeiris Kokkinogenis	
Low Cost Architecture of Autonomous Subsystems for Internet of Things	39
David Sec, Lubos Mercl, and Peter Mikulecky	
Special Session on Advances on Demand Response and Renewable Energy Sources in Agent Based Smart Grids (ADRESS)	
Long-Term Reliability Analysis of a Microgrid on Isolated Mode Using CPN Formalism	53
Pedro Machado, Luiz Edival de Souza, and Jean-Claude Maun	
Photovoltaic Inverter Scheduler with the Support of Storage Unit to Minimize Electricity Bill	63
João Spínola, Pedro Faria, and Zita Vale	
Real-Time Emulation and Simulation System of Asynchronous Motor Consumption	72
Filipe Sousa, João Spínola, Nuno Moreira, Pedro Faria, and Zita Vale	

Economic Evaluation of Predictive Dispatch Model in MAS-Based Smart Home	81
Amin Shokri Gazafroudi, Francisco Prieto-Castrillo, Tiago Pinto, Aria Jozi, and Zita Vale	
Smart City: A GECAD-BISITE Energy Management Case Study	92
Bruno Canizes, Tiago Pinto, João Soares, Zita Vale, Pablo Chamoso, and Daniel Santos	
Gravitational Search Algorithm Applied for Residential Demand Response Using Real-Time Pricing	101
G. Spavieri, R.A.S. Fernandes, and Z. Vale	
Special Session on Agents and Mobile Devices (AM) + Computer Vision in Multi-Agent Robotics (RV)	
Single Appliance Automatic Recognition: Comparison of Classifiers	115
Daniel Hernández de la Iglesia, Alberto López Barriuso, Álvaro Lozano Murciego, Jorge Revuelta Herrero, Jorge Landeck, Juan F. de Paz, and Juan M. Corchado	
Non Intrusive Load Monitoring (NILM): A State of the Art	125
Jorge Revuelta Herrero, Álvaro Lozano Murciego, Alberto López Barriuso, Daniel Hernández de la Iglesia, Gabriel Villarrubia González, Juan Manuel Corchado Rodríguez, and Rita Carreira	
Learning Frequent Behaviors Patterns in Intelligent Environments for Attentiveness Level	139
Dalila Durães, Catarina Cardoso, Javier Bajo, and Paulo Novais	
Indoor Children Location System Using BLE Technology	148
David Manzano, Gabriel Villarrubia, Daniel Hernández, and Juan F. De Paz	
RGBN Multispectral Images: A Novel Color Restoration Approach	155
Cristhian Aguilera, Xavier Soria, Angel D. Sappa, and Ricardo Toledo	
Learning to Colorize Infrared Images	164
Patricia L. Suárez, Angel D. Sappa, and Boris X. Vintimilla	
Special Sessions on Web and Social Media Mining (WASMM)	
Automatic Construction of Domain-Specific Sentiment Lexicons for Polarity Classification	175
Sattam Almatarneh and Pablo Gamallo	
A Hash Based Image Matching Algorithm for Social Networks	183
Pablo Chamoso, Alberto Rivas, Javier J. Martín-Limorti, and Sara Rodríguez	

Using Twitter Data to Monitor Political Campaigns and Predict Election Results	191
Shira Fano and Debora Slanzi	
Applying Data Mining for Sentiment Analysis in Music	198
Lucía Martín Gómez and María Navarro Cáceres	
Recommendation of Songs in Music Streaming Services: Dealing with Sparsity and Gray Sheep Problems	206
Diego Sánchez-Moreno, Ana B. Gil González, M. Dolores Muñoz Vicente, Vivian López Batista, and María N. Moreno-García	
Recommender System Based on Collaborative Filtering for Spotify's Users	214
Javier Pérez-Marcos and Vivian López Batista	
Hybrid Tourism Recommendation System Based on Functionality/Accessibility Levels	221
Filipe Santos, Ana Almeida, Constantino Martins, Paulo Moura de Oliveira, and Ramiro Gonçalves	
Doctoral Consortium (DC)	
Acceleration of Dissimilarity-Based Classification Algorithms Using Multi-core Computation	231
Ana-Lorena Uribe-Hurtado and Mauricio Orozco-Alzate	
A Study on IoT Technologies in Smart Cities	234
Somayya Madakam	
Malware Propagation Software for Wireless Sensor Networks	238
Farrah Kristel Batista, Ángel Martín del Rey, and Araceli Queiruga-Dios	
New Perspectives in the Study of Advanced Persistent Threats	242
Santiago Quintero-Bonilla, Angel Martín del Rey, and Araceli Queiruga-Dios	
Towards Modelling Organisational Dynamics for Large-Scale Multiagent Systems	245
Bogdan Okreša Đurić	
On the Optimal NFVI-PoP Placement for SDN-Enabled 5G Networks	249
Alejandro Santoyo-González and Cristina Cervelló-Pastor	
Active Ageing Agents	254
Alfredo Carvalho	
Pattern Extraction for the Design of Predictive Models in Industry 4.0	258
Inés Sittón and Sara Rodríguez	

Rethinking Posts Through Emotion Awareness	262
G. Aguado, V. Julian, and A. Garcia-Fornes	
Self-healing Mechanism over the Cloud on Interaction Layer for AALs Using HARMS	264
Mauricio Gomez, Abelghani Chibani, Yacine Amirat, and Eric T. Matson	
Challenges in Smart Spaces: Aware of Users, Preferences, Behaviours and Habits	268
Pedro Oliveira, Paulo Novais, and Paulo Matos	
Decision Support for Smart Grid Planning and Operation Considering Reliability and All Available Resources	272
Bruno Canizes and Zita Vale	
An Actor-Based Bottom-Up Simulation Aid for Complex Dynamic Decision Making	275
Souvik Barat	
μGIM – Microgrids Intelligent Management System Based on a Multi-agent Approach and the Active Participation on Demand Response	279
Luis Gomes and Zita Vale	
Organization-Based Multi-agent System of Local Electricity Market: Bottom-Up Approach	281
Amin Shokri Gazafroudi, Francisco Prieto-Castrillo, Tiago Pinto, and Juan Manuel Corchado	
Remuneration and Tariffs in the Context of Virtual Power Players	284
Catarina Ribeiro, Tiago Pinto, Zita Vale, and José Baptista	
Multi-agent Based Uncoordinated Channel Hopping in the IEEE 802.15.4e	287
Aydin Homay, Mário de Sousa, Luís Almeida, António Martins, and Eugénio Oliveira	
Big Data in Efficient Smart Grids Management	297
Eugénia Vinagre, Tiago Pinto, Zita Vale, and Carlos Ramos	
Ontologies for the Interoperability of Heterogeneous Multi-agent Systems in the Scope of Power and Energy Systems	300
Gabriel Santos, Tiago Pinto, and Zita Vale	
Decision Support for Agents' Participation in Electricity Markets	302
Ricardo Faia, Tiago Pinto, and Zita Vale	
Decision Support System for the Negotiation of Bilateral Contracts in Electricity Markets	305
Francisco Silva, Tiago Pinto, Isabel Praça, and Zita Vale	

Tools Control Center to Enable the Joint Simulation of Multi-agent Systems	307
Brígida Teixeira, Tiago Pinto, Gabriel Santos, Isabel Praça, and Zita Vale	
Multi-agent Web Recommender System for Online Educational Environments	309
Joaquim Neto	
Tackling the Interleaving Problem in Activity Discovery	313
Eoin Rogers, Robert J. Ross, and John D. Kelleher	
Design of an Intelligent Computational System for the Cognitive Training of People with Verbal Fluency Problems Associated to the Mild Cognitive Impairment	315
Santiago Murillo Rendón, Belarmino Segura Giraldo, and Francia Restrepo de Mejía	
Multisensor Indoor Location System	320
Takayasu Kawai, Kenji Matsui, and Yukio Honda	
Automatic Movement Detection Using Mobile Phones	325
Ayaka Hatori	
Preliminary Study for Improving Accuracy of the Indoor Positioning Method Using Compass and Walking Speed	330
Takayasu Kawai, Kenji Matsui, and Yukio Honda	
Facial Analysis for the Prediction of Beauty Preferences	336
Minako Akiyama	
Tracking Objects with Vacuuming Robots	341
Takuya Okita	
Real-Time Implementation of Demand Response Programs Based on Open ADR Technology	345
Omid Abrishambaf, Pedro Faria, and Zita Vale	
Author Index	349



<http://www.springer.com/978-3-319-61577-6>

Trends in Cyber-Physical Multi-Agent Systems. The
PAAMS Collection - 15th International Conference,
PAAMS 2017

De la Prieta, F.; Vale, Z.; Antunes, L.; Pinto, T.;
Campbell, A.T.; Julian, V.; Neves, A.; Moreno, M.N. (Eds.)
2018, XVII, 350 p. 99 illus., Softcover
ISBN: 978-3-319-61577-6