Studies in Computational Intelligence

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About this Series

The series “Studies in Computational Intelligence” (SCI) publishes new developments and advances in the various areas of computational intelligence—quickly and with a high quality. The intent is to cover the theory, applications, and design methods of computational intelligence, as embedded in the fields of engineering, computer science, physics and life sciences, as well as the methodologies behind them. The series contains monographs, lecture notes and edited volumes in computational intelligence spanning the areas of neural networks, connectionist systems, genetic algorithms, evolutionary computation, artificial intelligence, cellular automata, self-organizing systems, soft computing, fuzzy systems, and hybrid intelligent systems. Of particular value to both the contributors and the readership are the short publication timeframe and the worldwide distribution, which enable both wide and rapid dissemination of research output.

More information about this series at http://www.springer.com/series/7092
Intelligent distributed computing emerged as the result of the fusion and cross-fertilization of ideas in Intelligent Computing and Distributed Computing. Its roots come from artificial intelligence in the 1970s, when the idea of cooperating agents came to life. Its outcome is the development of a new generation of intelligent distributed systems, by combining methods and technology from classical artificial intelligence, computational intelligence, and multi-agent systems taking into account, also, security concerns and emerging IoT applications.

This volume contains the proceedings of the 11th International Symposium on Intelligent Distributed Computing, IDC’2017. The symposium was hosted by the School of Electrical Engineering from the University of Belgrade, in Belgrade, Serbia, from 11 to 13 October 2017. IDC’2017 continues the tradition of the IDC Symposium Series that started 11 years ago as an initiative of two research groups:

(i) Systems Research Institute, Polish Academy of Sciences, Warsaw, Poland, and
(ii) Software Engineering Department, University of Craiova, Craiova, Romania.

The IDC Symposia welcome submissions of original papers on all aspects of intelligent distributed computing ranging from concepts and theoretical developments to advanced technologies and innovative applications. The symposia aim to bring together researchers and practitioners involved in all aspects of intelligent distributed computing. IDC is interested in works that are relevant for both Distributed Computing and Intelligent Computing, with scientific merit in these areas.

The IDC’2017 event comprised the main conference organized in eight sessions: (1) Distributed Algorithms and Optimization, (2) Reasoning and Decision Making in Distributed Environments, (3) Multi-agent Systems, (4) Data Analysis, Mining, and Integration, (5) Machine Learning, (6) Internet of Things and Cloud Computing, (7) Service-based Distributed Systems, and (8) WASA 2017 (7th Workshop on Applications of Software Agents). The proceedings book contains contributions 22 regular, and 6 short papers selected from a total of 52 received submissions from 30 countries (counting the country of each coauthor for each paper submitted). Each submission was carefully reviewed by at least three members of the Program
Committee. Acceptance and publication were judged based on the relevance to the symposium topics, clarity of presentation, originality and accuracy of results, and proposed solutions. The acceptance rates were 46.15%, counting only regular papers, and 61.54% when including also short papers (four accepted papers were withdrawn during the finalization process). The 28 contributions published in this book address many topics related to theory and applications of intelligent distributed computing including: cloud computing, P2P networks, agent-based distributed simulation, ambient agents, smart and context-driven environments, Internet of Things, network security, mobile computing, unmanned vehicles, augmented physical reality, swarm computing, team and social computing, constraints and optimization, and information fusion.

We would like to thank Janusz Kacprzyk, editor of Studies in Computational Intelligence series and member of the Steering Committee, for his continuous support and encouragement for the development of the IDC Symposium Series. Also, we would like to thank the IDC’2017 Program Committee members for their work in promoting the event and refereeing submissions. A special thank you to all colleagues who submitted their work to this event.

We are thankful for the talks delivered by our invited speakers Eva Onaindia (Valencia, Spain), Bela Stantic (Brisbane, Australia), and Karl Tuyls (Liverpool, United Kingdom): Thank you very much for these interesting lectures.

Finally, we acknowledge and appreciate the efforts of the main organizers from the Department of Mathematics and Informatics, Faculty of Sciences, University of Novi Sad, Serbia, for organizing this event. A special thanks also go to the co-organizers from the School of Electrical Engineering, University of Belgrade, Serbia, for hosting the event and such a beautiful location.

Novi Sad, Serbia
Craiova, Romania
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Belgrade, Serbia
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Contents

Part I  Distributed Algorithms and Optimization

A Performance Analysis of Self-* Evolutionary Algorithms on Networks with Correlated Failures ............................ 3
Rafael Nogueras and Carlos Cotta

Spatially Structured Evolutionary Algorithms: Graph Degree, Population Size and Convergence Speed .......................... 15
Carlos M. Fernandes, Juan L.J. Laredo and Agostinho C. Rosa

Heuristic of Anticipation for Fair Scheduling and Resource Allocation in Grid VOs ........................................ 27
Victor Toporkov, Anna Toporkova and Dmitry Yemelyanov

On the Applications of Dijkstra’s Shortest Path Algorithm in Software Defined Networks .................................. 39
Tihana Galinac Grbac and Nikola Domazet

Part II  Reasoning and Decision Making in Distributed Environments

Towards a Paraconsistent Approach to Actions in Distributed Information-Rich Environments ................................. 49
Łukasz Białek, Barbara Dunin-Kęplicz and Andrzej Szałas

A Modified Vickrey Auction with Regret Minimization for Uniform Alliance Decisions ................................. 61
Marin Lujak and Marija Slavkovic

Lightweight Cooperative Self-Localization as Support to Traffic Regulation for Autonomous Car Driving .......................... 73
Assia Belbachir, Marcia Pasin and Amal El Fallah Seghrouchni
A New Approach for Vertical Handover Between LTE and WLAN Based on Fuzzy Logic and Graph Theory .............. 81
Zlatko Dejanović

Part III Multi-agent Systems

Programming the Interaction Space Effectively with ReSpeCTX .......... 89
Giovanni Ciatto, Stefano Mariani and Andrea Omicini

Multi-agent System to Design Next Generation of Airborne Platform ................................................................. 103
Ludovic Grivault, Amal El Fallah-Seghrrouchni and Raphaël Girard-Claudon

A Drone-Based Building Inspection System Using Software-Agents ............................................................... 115
Jun Jo, Zahra Jadidi and Bela Stantic

Part IV Data Analysis, Mining and Integration

Connecting Social Media Data with Observed Hybrid Data for Environment Monitoring ........................................... 125
Jinyan Chen, Sen Wang and Bela Stantic

EUStress: A Human Behaviour Analysis System for Monitoring and Assessing Stress During Exams ........................................ 137
Filipe Gonçalves, Davide Carneiro, Paulo Novais and José Pêgo

Post Sharing-Based Credibility Network for Social Network ........... 149
V. Carchiolo, A. Longheu, M. Malgeri, G. Mangioni and M. Previti

Ontological Hybrid Storage for Security Data ................................. 159
Igor Kotenko, Andrey Chechulin, Elena Doynikova and Andrey Fedorchenko

Part V Machine Learning

Wind Power Production Forecasting Using Ant Colony Optimization and Extreme Learning Machines .............................. 175
Maria Carrillo, Javier Del Ser, Miren Nekane Bilbao, Cristina Perfecto and David Camacho

Convolutional Neural Networks for Four-Class Motor Imagery Data Classification .................................. 185
Tomas Uktveris and Vacius Jusas
Binary Classification of Images for Applications in Intelligent 3D Scanning ................................................................. 199
Branislav Vezilić, Dušan B. Gajić, Dinu Dragan, Veljko Petrović, Srđan Mihić, Zoran Anišić and Vladimir Puhalac

Part VI Internet of Things and Cloud Computing

Context Aware Resource and Service Provisioning Management in Fog Computing Systems ................................................. 213
Saša Pešić, Milenko Tošić, Ognjen Iković, Mirjana Ivanović, Miloš Radovanović and Dragan Bošković

An Argumentative Approach to Smart Home Office

Ambient Lighting ................................................................. 225
Andrei Mocanu

A Recommender System Based on Hierarchical Clustering for Cloud e-Learning ................................................................. 235
Krenare Pireva and Petros Kefalas

A Taxonomy of Anomalies in Distributed Cloud Systems: The CRI-Model ................................................................. 247
Kim Reichert, Alexander Pokahr, Till Hohenberger, Christopher Haubeck and Winfried Lamersdorf

Modeling and Analysis of IoT Energy Resource

Exhaustion Attacks .......................................................... 263
Vasily Desnitsky and Igor Kotenko

Part VII Service-Based Distributed Systems

Service Discovery in Megascale Distributed Systems ............... 273
Kai Jander, Alexander Pokahr, Lars Braubach and Julian Kalinowski

Context-Aware Access Control Model for Services Provided from Cloud Computing ......................................................... 285
Ichiro Satoh

Reference Architecture for Self-adaptive Microservice Systems ...... 297
Krasimir Baylov and Aleksandar Dimov

Part VIII WASA 2017 (7th Workshop on Applications of Software Agents)

Agent-Based Computing in the Internet of Things:
A Survey ................................................................. 307
Claudio Savaglio, Giancarlo Fortino, Maria Ganzha, Marcin Paprzycki, Costin Bădică and Mirjana Ivanović
Teaching, Learning and Assessment of Agents and Robotics
in a Computer Science Curriculum .............................. 321
Ioanna Stamatopoulou, Konstantinos Dimopoulos and Petros Kefalas

Author Index .................................................. 333