

Preface

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.

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