

Preface

The present book includes extended and revised versions of a set of selected papers from the 8th International Conference on Agents and Artificial Intelligence (ICAART 2016), held in Rome, Italy, during February 24–26, 2016.

ICAART 2016 received 149 paper submissions from 39 countries, of which 12% are included in this book.

The papers were selected by the event chairs and their selection is based on a number of criteria that include the classifications and comments provided by the Program Committee members, the session chairs' assessment, and also the program chairs' global view of all papers included in the technical program. The authors of selected papers were then invited to submit a revised and extended version of their papers having at least 30% innovative material.

The purpose of the International Conference on Agents and Artificial Intelligence is to bring together researchers, engineers, and practitioners interested in the theory and applications in the areas of agents and artificial intelligence. The conference has two related tracks, covering both applications and current research work. One track focuses on agents, multi-agent systems and software platforms, agile management, distributed problem solving and distributed AI in general. The other track focuses mainly on artificial intelligence, knowledge representation, planning, learning, scheduling, perception, data mining, data science, reactive AI systems, and evolutionary computing and other topics related to intelligent systems and computational intelligence.

The papers included in this volume address a number of open research trends in agents and artificial intelligence. In an innovative manner the authors highlight the trends in intelligent multi-agent systems natural language processing, soft computing, and knowledge representation. In one way or another, all papers are related to knowledge representation.

In the intelligent multi-agent systems area we have included a set of five papers focusing on aspects related to team formation and planning. The topics addressed are: "Adaptive Team Formation in Changing Environments," "Multi-Agent Coalition Formation in Self-Interested Environments," and "Discrete Multi-Agent Plan Recognition: Recognizing Teams, Goals, and Plans from Action Sequences"; two additional papers in this area address more reflective issues, namely: "From Reviews to Arguments and from Arguments Back to Reviewers' Behavior," and "Model Checking Approaches to Branch-and-Bound Optimization of a Flow Production System." Finally, one paper discusses issues related to the interaction with virtual agents: Perception of Masculinity and Femininity of Agent's Appearance and Self-adaptors.

The area of natural language processing is approached from several perspectives by a set of four papers. Two of them are related to "Spatial and Temporal Understanding with Modelling the Directionality of Attention During Spatial Language Comprehension," and "Integrating Graded Knowledge and Temporal Change in a Modal Fragment of OWL"; two other papers are related to text understanding, namely: "Natural

Language Argumentation for Text Exploration,” and “Advanced User Interfaces for Semantic Annotation of Complex Relations in Text.”

Three papers focus on soft computing by discussing uncertainty representation, neural nets, and fuzzy systems. They are: “Enhancing Visual Clustering Using Adaptive Moving Self-Organizing Maps (AMSOM),” “An Automatic Approach for Generation of Fuzzy Membership Functions,” and “Enhancing Support Vector Decoders by Integrating an Uncertainty Model.” Finally, we have included in this book a set of papers that address knowledge representation, related to decision support and machine learning: “Qualitative Possibilistic Decisions,” “Detecting Hidden Objects,” and “Improving Cascade Classifier Precision”; two additional papers in this area use the Semantic Web principles to address issues such as privacy or context-based recommendations, namely: “Keeping Secrets in EL+ Knowledge Bases” and “An Agent-based Architecture for Personalized Recommendations.”

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