

Preface

This volume contains the discussion papers and a selection of the Doctoral Consortium papers presented at AI*IA 2019, the 18th International Conference of the Italian Association for Artificial Intelligence held during November 19-22, 2019 in Rende. The conference is organized by the Italian Association for Artificial Intelligence (AI*IA – Associazione Italiana per l’Intelligenza Artificiale), which is a non-profit scientific society founded in 1988 devoted to the promotion of Artificial Intelligence. The association aims to increase the public awareness of AI, encourage the teaching of it, and promote research in the field.

The presentation of discussion papers about recently published research is a novelty of this edition of the conference. The discussion track of the conference received 16 submissions, and 13 of them were selected for the technical review process. Each selected submission was reviewed by at least three Program Committee members. The committee decided to accept 10 discussion papers for presentation at the conference and publication in this volume. Additionally, the volume comprises 5 papers selected from the 10 papers accepted for the presentation at the Doctoral Consortium.

We acknowledge EasyChair (<https://easychair.org/>) for providing their conference management system that significantly simplified the whole process from receiving the submissions to producing the proceedings. Finally, we thank all the authors who contributed to the workshops, the Program Committee members and the additional reviewers for their effort to produce timely and wise reviews.

November 7, 2019
Rende

Mario Alviano
Gianluigi Greco
Marco Maratea
Francesco Scarcello

Table of Contents

Is Your Argument Still Skeptically Accepted?	1
<i>Gianvincenzo Alfano, Sergio Greco and Francesco Parisi</i>	
Engineering Multiagent Organizations by Accountability and Responsibility	12
<i>Matteo Baldoni, Cristina Baroglio, Olivier Boissier, Roberto Micalizio and Stefano Tedeschi</i>	
Anomaly Detection using Autoencoders in High Performance Computing Systems	24
<i>Andrea Borghesi, Andrea Bartolini, Michele Lombardi, Michela Milano and Luca Benini</i>	
Exploiting ontologies for explaining data sources semantics (Discussion paper)	33
<i>Gianluca Cima, Maurizio Lenzerini and Antonella Poggi</i>	
How to Tame Your Anticipatory Algorithm	42
<i>Allegra De Filippo, Michele Lombardi and Michela Milano</i>	
ASP and ontologies for reasoning on Business Processes	51
<i>Laura Giordano and Daniele Theseider Dupre'</i>	
Tangible Decision-making in Sensors Augmented Spaces	59
<i>David Massimo and Francesco Ricci</i>	
Natural Language Justifications for Recommender Systems Exploiting Text Summarization and Sentiment Analysis	69
<i>Cataldo Musto, Gaetano Rossiello, Marco de Gemmis, Pasquale Lops and Giovanni Semeraro</i>	
On the Tour Towards DPLL(MAPF) and Beyond	80
<i>Pavel Surynek</i>	
Viewpoint: Human-In-The-Loop Artificial Intelligence	90
<i>Fabio Massimo Zanzotto</i>	
Explicit Memorization for Recurrent Neural Networks with Autoencoders	101
<i>Antonio Carta</i>	
Adversarial Learning for Visual Tracking Research Idea	107
<i>Emanuel Di Nardo</i>	
Enhancing Neural Networks through Formal Verification	113
<i>Dario Guidotti</i>	

Power Index-Based Semantics for Ranking Arguments in Abstract Argumentation Frameworks: an Overview	119
<i>Carlo Taticchi</i>	
Monitoring cardiovascular risk by video processing and fuzzy rules	125
<i>Gianluca Zaza</i>	

Organization

Conference Chair

Nicola Leone University of Calabria

Organization Chairs

Francesco Ricca University of Calabria
Chiara Ghidini FBK Trento

Program Chairs

Mario Alviano University of Calabria
Gianluigi Greco University of Calabria
Francesco Scarcello University of Calabria

Doctoral Consortium Chair

Marco Maratea University of Genova

Program Committee

Francesco Amigoni Politecnico di Milano
Fabrizio Angiulli University of Calabria
Davide Bacciu University of Pisa
Farshad Badie Aalborg University
Matteo Baldoni University of Tourin
Stefania Bandini CSAI - Complex Systems & Artificial Intelligence Research Center

Roberto Basili University of Roma Tor Vergata
Nicola Basilico University of Milan
Federico Bergenti University of Parma
Tarek Richard Besold Alpha Health AI Lab, Telefonica Innovation Alpha
Stefano Bistarelli University of Perugia
Loris Bozzato Fondazione Bruno Kessler
Andrea Burattin Technical University of Denmark
Elena Cabrio Université Côte d'Azur, CNRS, Inria, I3S, France
Stefano Cagnoni University of Parma
Marco Calautti University of Calabria
Diego Calvanese Free University of Bozen-Bolzano
Luigia Carlucci Aiello Sapienza University of Rome
Amedeo Cesta CNR - National Research Council of Italy
Federico Chesani University of Bologna
Francesco Corcoglioniti Free Researcher
Gabriella Cortellessa CNR-ISTC, National Research Council of Italy
Stefania Costantini University of l'Aquila
Dario Della Monica University of Udine
Claudio Di Ciccio Vienna University of Economics and Business
Chiara Di Francescomarino Fondazione Bruno Kessler-IRST

Tommaso Di Noia	Polytechnic University of Bari
Carmine Dodaro	Department of Mathematics and Computer Science, University of Calabria
Michele Donini	Amazon
Agostino Dovier	University of Udine
Aldo Franco Dragoni	Polytechnic University of Marche
Stefano Ferilli	University of Bari
Johannes Fichte	TU Dresden
Alberto Finzi	University of Naples Federico II
Giancarlo Fortino	University of Calabria
Salvatore Gaglio	University of Palermo
Marco Gavanelli	University of Ferrara
Chiara Ghidini	Fondazione Bruno Kessler (FBK)
Massimiliano Giacomin	University of Brescia
Laura Giordano	Università del Piemonte Orientale
Giuseppe Jurman	Fondazione Bruno Kessler
Evelina Lamma	University of Ferrara
Domenico Lembo	Sapienza University of Rome
Antonio Lieto	University of Turin
Marco Lippi	University of Modena and Reggio Emilia
Francesca Alessandra Lisi	Università degli Studi di Bari "Aldo Moro"
Fabrizio Maria Maggi	Institute of Computer Science - University of Tartu
Bernardo Magnini	FBK-irst
Marco Manna	University of Calabria
Marco Maratea	University of Genoa
Simone Marinai	University of Florence
Andrea Marrella	Sapienza University of Rome
Viviana Mascardi	University of Genoa
Fulvio Mastrogiovanni	University of Genoa
Alessandro Mazzei	University of Turin
Stefano Melacci	University of Siena
Paola Mello	University of Bologna
Roberto Micalizio	University of Turin
Alessio Micheli	University of Pisa
Alfredo Milani	University of Perugia
Stefania Montani	University of Piemonte Orientale
Angelo Oddi	ISTC-CNR, Italian National Research Council
Luca Oneto	University of Genoa
Matteo Palmonari	University of Milano-Bicocca
Andrea Passerini	University of Trento
Viviana Patti	University of Turin
Ruggero G. Pensa	University of Turin
Roberto Pirrone	University of Palermo
Piero Poccianti	Consorzio Operativo Gruppo MPS
Simone Paolo Ponzetto	University of Mannheim

Daniele Porello	Free University of Bolzano-Bozen
Gian Luca Pozzato	University of Turin
Luca Pulina	University of Sassari
Fabrizio Riguzzi	University of Ferrara
Andrea Roli	University of Bologna
Riccardo Rosati	Sapienza University of Rome
Silvia Rossi	University of Naples Federico II
Salvatore Ruggieri	University of Pisa
Emanuel Sallinger	University of Oxford
Fabio Sartori	University of Milan-Bicocca
Marco Schaerf	Sapienza University Rome
Giovanni Semeraro	University of Bari
Luciano Serafini	Fondazione Bruno Kessler
Domenico Talia	University of Calabria
Stefano Teso	Katholieke Universiteit Leuven
Stefano Tonetta	FBK-irst
Mauro Vallati	University of Huddersfield
Eloisa Vargiu	Eurecat Technology Center - eHealth Unit
Marco Villani	University of Modena and Reggio Emilia
Giuseppe Vizzari	University of Milano-Bicocca
Antonius Weinzierl	Vienna University of Technology

Additional Reviewers

A

Agramunt, Sebastia
Augello, Agnese

B

Bellodi, Elena
Bertagnon, Alessandro
Bianchi, Federico
Biondi, Giulio

C

Cerrato, Mattia
Crecchi, Francesco

D

Dal Palù, Alessandro
De Benedictis, Riccardo
De Paola, Alessandra

E

Ercolano, Giovanni

F

Fracasso, Francesca

L

La Rosa, Massimo
Lieto, Antonio

M

Malek, Salim

N

Narducci, Fedelucio

P

Philipp, Tobias
Polato, Mirko
Polignano, Marco

R

Rizzi, Williams
Romeo, Luca

S

Santini, Francesco
Schidler, André

T

Taticchi, Carlo
Tiezzi, Francesco

V

Vahdati, Sahar