

Preface

Richard Booth and Federico Cerutti
Cardiff University, UK

Argumentation technologies are currently enjoying a significant interest in news outlets, notably with work run by the Centre for Argument Technology at the University of Dundee together with BBC, a British public broadcaster, to support critical thinking in school pupils¹ and to gather insights in public debates;² and by IBM, a multinational information technology company, with their project for debating humans on complex topics.³ However, it is true that the vast majority of the research community is currently struggling to deliver products and applications to end users. This has to change to fulfil the promises of describing and enhancing human reasoning and decision making often made in research papers.

We therefore believe that our community has the duty to support colleagues who actively try to ferry theoretical investigations towards actual implementations. With this ethos, we organised the Special Track on Applications of Argumentation that was held on June 28, 2017, in Arras, France, as part of the Thirtieth International Conference on Industrial, Engineering and Other Applications of Applied Intelligent Systems (IEA/AIE).

The quality of the submissions there inspired us to expand into an open call for the papers for this special issue. Each submission was carefully reviewed by at least two, and in most cases three, reviewers. The papers contained in this special issue are the result.

The application areas discussed in this special issue include law, international politics and reasoning with clinical data, and they cover the application of argumentation to visualisation of opinion spaces, critical thinking about international politics and the selection of the right statistical models to analyse datasets, as well as providing general frameworks for applications. More precisely, the papers in this volume are as follows:

In “Noise Induced Hearing Loss: Building an Application using the Angelic Methodology”, Latifa Al-Abdulkarim, Katie Atkinson, Trevor Bench-Capon, Stuart Whittle, Rob Williams and Catriona Wolfenden describe the use of the ANGELIC methodology to build a full scale application to be used by a large firm of legal practitioners in the UK in a specific legal domain, namely Noise Induced Hearing Loss.

In “Applying Argumentation to Structure and Visualize Multi-dimensional Opinion Spaces”, Gregor Betz, Michael Hamann, Tamara Mchedlidze and Sophie von Schmettow present *OpMAP*: a tool for visualizing large scale, multi-dimensional opinion spaces as geographic maps.

In “Argument Schemes and Visualization Software for Critical Thinking about International Politics”, Nancy L. Green, Michael Branon and Luke Roosje analyse arguments in interpretive reports about in-

¹<https://www.bbc.co.uk/taster/pilots/evidence-toolkit-moral-maze> (on 5 October 2018).

²<http://bbc.arg.tech/> (on 5 October 2018).

³<https://www.research.ibm.com/artificial-intelligence/project-debater/> (on 5 October 2018).

ternational politics, in order to develop AVIZE (Argument Visualization and Evaluation), a prototype argument diagramming tool for that domain.

The purpose of the contribution “GORGIAS: Applying Argumentation” by Antonis C. Kakas, Pavlos Moraitis and Nikolas I. Spanoudakis is to present the past and present efforts of developing real-life applications of argumentation with the Gorgias preference-based structured argumentation framework of Logic Programming with Priorities.

Finally, in “A formalisation and prototype implementation of argumentation for statistical model selection”, Isabel Sassoon, Sebastian Zillesen, Jeroen Keppens and Peter McBurney outline an application of argumentation to support the analysis of clinical data, that uses Extended Argumentation Frameworks in order to reason with the meta-level arguments derived from preference contexts relevant to the data and the analysis objective of the end user.

We thank the peer-reviewers who assessed the papers for this special issue and we thank the journal editors for their continued support. We also thank the IEA/AIE program chairs (Salem Benferhat and Karim Tabia) and special session chairs (Zied Bouraoui and Steven Schockaert) for allowing us to organise the special track there. Considered together, these papers show the diversity of applications in the field of argumentation, and reveal the intellectual challenges inherent in this exciting domain.

Richard Booth, Cardiff University, UK
Federico Cerutti, Cardiff University, UK

1. List of Reviewers for the Special Issue

We thank the peer-reviewers who assessed the papers for this special issue:

Laura Alonso Alemany, Universidad Nacional de Córdoba, Argentina
Katie Atkinson, The University of Liverpool, UK
Pietro Baroni, Università degli Studi di Brescia, Italy
Marcos Cramer, Universität Dresden, Germany
Massimiliano Giacomini, Università degli Studi di Brescia, Italy
Sebastian Gottifredi, Universidad Nacional del Sur, Argentina
Matthias Grabmair, Carnegie Mellon University, USA
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