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Rules on the Web: Research and Applications

6th International Symposium, RuleML 2012
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Proceedings



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Preface

The International Symposium on Rules, RuleML, has evolved from an annual series of international workshops held since 2002, international conferences in 2005 and 2006, and international symposia since 2007. RuleML 2012, the sixth symposium of this series, brought together researchers and practitioners from industry, academia, and the broader AI community, and presented new research results and applications in the field of rules. It was collocated with the 20th biennial European Conference on Artificial Intelligence (ECAI 2012) in Montpellier, France.

RuleML 2012 was created, inspired, and supported by the RuleML Initiative. RuleML (<http://ruleml.org>) is a non-profit umbrella organization. It consists of several technical groups organized by representatives from academia, industry, and public sectors working on rule technologies and applications. Its aim is to promote the study, research, and application of rules in heterogeneous, distributed environments, such as the Web. RuleML acts as an intermediary between various “specialized” rule vendors, industrial and academic research groups, as well as standardization bodies such as W3C, OMG, OASIS, and ISO. One of its major contributions is the Rule Markup Language, a unifying family of XML-serialized rule languages spanning across all industrially relevant kinds of Web rules.

The technical program of RuleML 2012 included presentations of novel rule-based technologies, such as rule languages, visual languages, mark-up languages, rule engines, formal and operational semantics as well as standardization efforts. It was organized in six main research tracks: Business Rules and Processes, Rule-Based Event Processing and Reaction Rules, Rule-Based Policies and Agents on the Pragmatic Web, Rules and the Semantic Web, Rule Mark-Up Languages and Rule Interchange, and Rule Transformation, Extraction and Learning. These tracks reflect the significant role of rules in several research and application areas, which includes: processing Semantic Web data, enabling the automation of business processes, modeling and reasoning over interactions among agents on the Pragmatic Web, reasoning over actions and events and developing reactive systems, and specifying norms and policies for Web and corporate environments.

Special highlights of this year’s RuleML Symposium included three keynote talks from:

- Robert Kowalski from Imperial College London (with co-author Fariba Sadri) presenting a logic-based framework for reactive systems
- Marie-Laure Mugnier presenting a framework for ontology-based query answering with existential rules
- François Briant from IMB France describing the RIDER (Research for IT Driven EnerGy efficiency) project

The program also included the 6th International Rule Challenge, which was dedicated to practical experiences with rule-based applications, and the RuleML 2012 Doctoral Consortium, which focused on PhD research in the area of rules and mark-up languages.

The contributions in this volume include one paper and one abstract for the first two keynote presentations, two track papers (one by Hans Weigand and Adrian Paschke on the role of rules in the Pragmatic Web, and one by Adrian Paschke, Harold Boley, Zhili Zhao, Kia Teymourian, and Tara Athan on Reaction RuleML, a standardized rule mark-up/serialization language for reaction rules and rule-based event processing), as well as a selection of 14 full papers and eight short papers, including the paper “A Production Rule-Based Framework for Causal and Epistemic Reasoning” by Theodore Patkos, Abdelghani Chibani, Dimitris Plexousakis, and Yacine Amiratm, which was awarded by RuleML with the Best Paper Award, and was invited for presentation at the 26th AAAI Conference (AAAI-12).

We would like to thank all colleagues who submitted papers to RuleML 2012, as well as our Steering Committee and our colleagues from ECAI 2012 for their cooperation and partnership. We would also like to express our gratitude to the Chairs, Program Committee members, and additional reviewers who ensured that this year’s symposium maintained the highest standards of scientific quality. Special thanks go to our keynote speakers, and to our sponsors and partners for their contribution to the success of RuleML 2012. Last, but not least, we would like to thank the development team of the EasyChair conference management system and our publisher, Springer, for their support in the preparation of this volume and the publication of the proceedings.

August 2012

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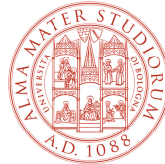
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