Preface

RuleML+RR 2022 is the leading international joint conference in the field of rule-based reasoning, and focuses on theoretical advances, novel technologies, as well as innovative applications concerning knowledge representation, reasoning, and learning with rules. The conference is an annual event that builds bridges between academia and industry. These proceedings present the papers from the satellite events of RuleML+RR 2022, namely the 16th Rule Challenge and 6th Doctoral Consortium.

The Rule Challenge is one of the highlights of the conference and seeks to provide competition among innovative rule-oriented applications, aimed at both the research and industrial side. Submissions typically present demos related to the RuleML+RR topics, supply benchmarks and comparison results for rule engines and rule-based machine learning techniques, illustrate rule- and model-driven engineering, report on industrial experiences, present real case studies and practical experiences. The Rule Challenge is a competition, and a prize (500 euro) is awarded for the best Rule Challenge paper. In the 2022 edition of the challenge, we give the opportunity to not only present results on self-introduced challenges but also to describe open challenges to be addressed by the community. This year's programme had 6 accepted papers across two sessions of the RuleML+RR conference.

The Doctoral Consortium is an initiative of the RuleML+RR community to attract and promote student research in rules and reasoning. It offers students a close contact with leading experts on the field, as well as the opportunity to present and discuss their ideas in a dynamic and friendly setting. The topics range from theoretical aspects of rules and reasoning, such as knowledge elicitation within the knowledge graphs, ontology-enriched data management, data anonymisation, to description logics to machine learning. Students presented their work through brief oral presentations during a dedicated session of the RuleML+RR conference and had the chance to discuss their research in detail with experts in the field. This year's programme had 4 accepted papers from doctoral students.

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