

Preface

RuleML+RR 2026 is the leading international joint conference in the field of rule-based reasoning. It focuses on theoretical advances, novel technologies, and 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 2026, namely the 20th Rule Challenge, 10th Doctoral Consortium, Industry Track, and Networking Session.

The Rule Challenge is one of the highlights of the conference and designed to benchmark and validate innovative rule-oriented tools, prototypes, and applications. It bridges the gap between theory and practice by fostering competition among solutions tailored to research, industry, and government. 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. This year's programme had 5 accepted papers.

The Doctoral Consortium is an initiative of the RuleML+RR community to attract and promote student research in the topics of the conference. It offers students close contact with leading experts in the field, as well as an 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 anonymization, and description logics, to relevant practical applications of machine learning. Students presented their work through brief oral presentations during the RuleML+RR conference and had the chance to discuss their research in detail with experts in the field. This year's programme had 3 accepted papers from doctoral students.

The RuleML+RR Industry Track highlights practical uses of Rules and Reasoning technologies for real-world industrial challenges, with particular interest in their integration with machine learning, neuro-symbolic AI, LLMs, knowledge graphs, and causal methods. This year's programme comprised 6 accepted papers, addressing applications in waste-to-energy systems, tribological image analysis, wastewater treatment, regulated-industry SOP management, EEG acquisition support, and symbolic-neural knowledge graph exploration. Together, the contributions demonstrate how rules, reasoning, and complementary AI methods can support more interpretable, auditable, and trustworthy decision-support systems across diverse industrial domains.

The project Networking Session of RuleML+RR aims to bring together relevant projects working in the area of data and AI with particular focus on, but not limited to, the event topics: rules, reasoning, decisions, and explanations. Traditionally, the session provides an opportunity to: share knowledge between research and innovation projects operating in the area of data and AI; identify potential synergies between the projects, e.g., transfer data and AI technology between projects, joint publications, joint dissemination activities, etc.; discuss funding opportunities such as Horizon Europe, Digital Europe, ERC, etc. This year, the session featured an invited talk by Laura Kovács entitled "How to Write a Successful Research Proposal—Tips and Tricks."

Programme committee

Rule Challenge

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Marek Sikora, Silesian University of Technology
Ognjen Savkovic, Free University of Bozen-Bolzano
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Doctoral Consortium

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