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Lukas Malburg · Kerstin Bach
Editors

Case-Based Reasoning Research and Development

34th International Conference, ICCBR 2026 Bremen, Germany, August 13–16, 2026 Proceedings

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Preface

This volume contains the papers presented at the 34th International Conference on Case-Based Reasoning (ICCBR 2026), held August 13–16, 2026, at the University of Bremen, Germany. ICCBR is the premier annual meeting of the Case-Based Reasoning (CBR) research community. ICCBR 2026 brought the CBR community to Bremen in co-location with ECAI/IJCAI 2026. The conference program reflected both the continuing foundations of CBR and its current connections to wider developments in artificial intelligence. Prominent themes included CBR with large language models, retrieval-augmented generation, explainable AI, uncertainty-aware CBR, neuro-symbolic methods, adaptation, retrieval, similarity, temporal and process-oriented CBR, responsible AI, and applied CBR systems.

ICCBR 2026 received 221 submissions in total. Of these, 85 papers proceeded to full review following an initial screening by the Program Chairs. The review process was single-blind. Each paper received at least two reviews, with a third and/or a meta-review provided by the Advisory Committee (AC) where needed. The program includes 21 papers selected for oral presentation and 15 for poster presentation, for an overall acceptance rate of 17%. These contributions were selected and organized under the guidance of the Program Chairs, with support from the Program Committee, additional reviewers, and the AC.

The scientific program featured two keynote talks: "XAI is in Trouble, but is CBR?" by Rosina O. Weber, and "In any case, or maybe not? Towards uncertainty-aware CBR" by Eyke Hüllermeier. The program also included the Doctoral Consortium, a poster session, community events, and the Workshop on Memory-Based Reasoning for Responsible GenAI, providing opportunities for discussion across the main conference and its co-located activities.

We gratefully acknowledge the support of all those whose contributions made ICCBR 2026 possible. We thank the authors for submitting their work, the reviewers and Program Committee for their careful evaluations and constructive feedback, and the ICCBR Advisory Committee for its guidance. We are grateful to the organizing team, the local organizers at the University of Bremen, and the Local Chair, Felix Putze, for hosting the conference in Bremen. We also thank the keynote speakers for their contributions to the program and Springer for its continued support in publishing the proceedings.

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August 2026

Kerstin Bach
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Invited Talk Abstracts

XAI Is in Trouble, But is CBR?

Rosina O. Weber

Drexel University, USA

Abstract. This keynote examines why Explainable AI (XAI), despite its popularity, has not yet delivered sufficiently mature solutions for AI explainability. It discusses problems of scope, definitions, motivation, and evaluation, and uses this analysis as a starting point for reflecting on CBR. Although CBR is not commonly described as being in trouble, it remains a valuable yet non-mainstream AI field. The talk asks whether CBR faces an identity problem between symbolic and subsymbolic AI and considers how recent work on AI alignment, additive feature attribution benchmarks, and large language models points to strategic opportunities for the CBR community.

In Any Case, or Maybe Not? Towards Uncertainty-Aware CBR

Eyke Hüllermeier

Ludwig-Maximilians-Universität München, Germany

Abstract. This keynote addresses the representation and handling of uncertainty in Case-Based Reasoning. It connects CBR with two active lines of research in machine learning: the distinction between aleatoric and epistemic uncertainty, and conformal prediction as a methodology for producing set-valued predictions with formal coverage guarantees. The talk discusses how these uncertainty frameworks can contribute to a formal foundation for uncertainty-aware CBR and highlights the specific challenges that arise when bringing them into the CBR setting.

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