# Preface

The increasing complexity of current knowledge-based systems requires improved explanation capabilities. During the height of expert systems research many workshops (including ECAI-workshops) addressed the issue of explanation capabilities. However, with the decrease in expert systems research, AI explanation research dwindled as well. Consequently, the time is ripe for renewed investigations of explanation in AI.

Other disciplines such as cognitive science, linguistics, philosophy of science, psychology, and education have investigated explanation as well. They consider varying aspects, making it clear that there are many different views of the nature of explanation and facets of explanation to explore. Within the field of knowledge-based systems, explanations have been considered as an important link between humans and machines. There, their main purpose is to increase the confidence of the user in a software system's result by, for example, providing evidence of how the result was derived. Additional AI research has focused on how computer systems can themselves use explanations, for example to guide learning.

Both within AI systems and in interactive systems, the ability to explain reasoning processes and results can have substantial impact. Current interest in mixed-initiative systems provides a new context in which explanation issues may play a crucial role. When knowledge-based systems are partners in an interactive socio-technical process, with incomplete and changing problem descriptions, communication between human and software systems is a central part. Explanations exchanged between human agents and software agents may play an important role in mixed-initiative problem solving.

This volume contains the papers presented at the ECAI-08 workshop on Explanation-aware Computing ExaCt2008 held on July 21–22, 2008 in Patras, Greece. There were 14 submissions. Each submission was reviewed by about three programme committee members. The committee decided to accept nine papers for oral presentation and three papers for poster presentation. This volume has been produced using the EasyChair system[1]. We would like to express our gratitude to its author Andrei Voronkov.

The chairs thank the invited speaker, Patrick Brézillon for his contribution to the success of this workshop. Particular thanks go to the Program Committee and additional reviewers for their efforts and hard work in the reviewing and selection process.

The ECAI-08 workshop on Explanation-aware Computing ExaCt 2008 was a continuation of a AAAI Fall symposium in 2005 and the AAAI-07 workshop ExaCt 2007[2]. The workshop series aims to draw on multiple perspectives on explanation, to examine how explanation can be applied to further the development of robust and dependable systems and to illuminate system processes to increase user acceptance and feeling of control.

[1] http://www.easychair.org

[2] http://exact2005.workshop.hm and http://exact2007.workshop.hm

The major goal of the workshop was to bring researchers, scientists from both industry and academia, and representatives from such different communities and fields as Informatics, Philosophy, and Sociology, together to study, understand, and explore the aspects of explanation in IT-applications. The submitted papers clearly showed the variety of perspectives and the promise of clarification and exchange across communities.

If you would like to participate in further discussions on this topic or like to receive further information about future workshops you might consider joining the Yahoo!-group explanation-research[3]. You also find more information on explanation research at the website on-explanation.net[4].

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[3] http://tech.groups.yahoo.com/group/explanation-research/
[4] http://on-explanation.net

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