

Editorial

Daniel Buschek, Benedikt Loepp, and Jürgen Ziegler*

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The proliferation of artificial intelligence (AI) in interactive and adaptive systems poses a range of new challenges for their design and engineering: Crucially, AI often introduces black boxes that may be difficult to render transparent, understandable and controllable for users. This Special Issue is the result of a recent effort to address these aspects by bringing together researchers working on AI and Human-Computer Interaction (HCI).

Concretely, the recently founded GI working group on *Nutzerzentrierte Künstliche Intelligenz (NKI)*, and the GI working group on *Adaptivität und Benutzermodellierung in interaktiven Softwaresystemen (ABIS)*, jointly initiated a workshop to share and discuss recent developments at the intersection of AI and HCI: The first *Workshop on User-Centered Artificial Intelligence (UCAI '20)* was held in conjunction with this year's *Mensch und Computer* conference and attracted more than 60 participants from industry and academia. They had the opportunity to enjoy a great keynote talk by Andreas Holzinger on *Human-Centered AI in Medicine*, as well as two paper sessions, which explored novel methodological, technical, and interaction approaches, and led to lively discussions, despite the online format.

With this Special Issue, we provided authors of selected papers the option to present extended versions of their workshop contributions. In addition to the invited paper by Andreas Holzinger, the first article in this issue, we received six submissions that—after another round of peer reviews—were considered for publication here. The article by Hernandez-Bocanegra and Ziegler explores the effects of presentation style and user characteristics on the perception of review-based explanations for the outcome of intelligent recommender systems. In the third article, Schultze et al. focus on rendering the process of creating such AI systems easier to understand: They present an educational application that allows users to learn how

practical problems can be solved with the help of typical deep learning workflows. The next two papers focus on specific methodological issues of machine learning: Rauschenberger and Baeza-Yates discuss the handling of small imbalanced datasets, which for some domains are preferred over big data, or even constitute the only available option. Logé et al. use dynamic programming to create a smart questionnaire that asks users exactly those questions that lead to the best possible performance in prediction tasks. The sixth and seventh article address user interface design: Herder et al. present a tool for structuring the presentation of the large amounts of data that social media platforms gather for each user and feed into their algorithms. Lehmann and Buschek discuss autocompletion as an overarching interaction concept that may be applied in many different interactive AI-based systems.

Taken together, these articles capture the range of topics discussed at the workshop and provide an overview of some of the user-centered aspects that participants deemed important for the design of future AI-based systems. We hope you will find these contributions both interesting and useful, and we wish you an enjoyable read!

Daniel Buschek, Benedikt Loepp, and Jürgen Ziegler
Special Issue Editors

*Corresponding author: Jürgen Ziegler, University of Duisburg-Essen, Duisburg, Germany, e-mail: juergen.ziegler@uni-due.de

Daniel Buschek, University of Bayreuth, Bayreuth, Germany, e-mail: daniel.buschek@uni-bayreuth.de

Benedikt Loepp, University of Duisburg-Essen, Duisburg, Germany