

Data Science

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Innovations in data analytics and machine learning are key drivers for the digitalization of virtually all aspects of our everyday life. They help us to extract knowledge from large amounts of structured and unstructured data, support (automated) decision-making, generate novel business models in industry, foreshadow personalized health technologies, and transform scientific research fields thanks to the availability of new types of data and methods. The widespread adoption of data science creates exciting challenges across all areas of computer science – including artificial intelligence, database technologies, distributed systems, computer architecture, software engineering, algorithm design, and theory — but also raises novel societal challenges like privacy, fairness, transparency and accountability.

The Data Science track aimed to give an overview of all aspects related to the modelling, analysis, knowledge extraction, and learning from big data, with a special emphasis on recent works from the German, Austrian, and Swiss research community. The topics of interest covered data science applications in academia and industry that cross disciplinary borders, as well as works that advance the methodological foundation of data analytics and visualisation, artificial intelligence, statistical learning, and big data processing. Contributions could be submitted in either of the following categories:

- **Regular articles** were expected to present novel insights and reliable results in one of the track's topic areas and must not have been submitted or published elsewhere.
- **Extended abstracts** were expected to summarize works that have recently been published in a leading international conference or journal in the area of data science. Accepted contributions in this category will be presented during a special session “Best of Data Science made in D/A/CH”.

The track received a total of 45 submissions, of which 33 fall into the extended abstract and 12 fall into the regular article category. After a thorough peer review process, we accepted 25 contributions, of which 21 are extended abstracts and four are regular articles. Hence,

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the regular article acceptance rate was approx. 33 % while the extended abstract acceptance rate was approx. 63 %.

Given the exceptionally high quality of submissions on already published works, the relatively high acceptance rate among extended abstracts was to be expected. The extended abstracts eventually included in the proceedings describe works that published in some of the world's most prestigious data science outlets, including venues like NeurIPS, SIGKDD, IEEE BigData, WWW, IEEE Big Data, Hypertext, ICDM, ICLR, SIGSPATIAL, IEEE DSAA, Machine Learning, and ESWC. We see this as testimony to the exceptional quality of research done within the German, Swiss, and Austrian data science community and we thank all authors for their valuable contributions to this track.

We further want to express our gratitude to the members of the program committee, who faced the difficult task of making a selection from a list of high-quality submissions. The program committee consisted of the following 22 members:

- Christian Bauckhage, Fraunhofer-Institut für Intelligente Analyse- und Informationssysteme IAIS
- Martin Becker, Universität Würzburg
- Christian Bizer, Universität Mannheim
- Rebekka Burkholz, Harvard University
- Rainer Gemulla, Universität Mannheim
- Michael Granitzer, Universität Passau
- Stephan Günnemann, Technische Universität München
- Denis Helic, Technische Universität Graz
- Andreas Hotho, Universität Würzburg
- Eyke Hüllermeier, Universität Paderborn
- Enkelejda Kasneci, Eberhard-Karls-Universität Tübingen
- Elisabeth Lex, Technische Universität Graz
- Alexander Munteanu, Technische Universität Dortmund
- Jürgen Pfeffer, Technische Universität München
- Matthias Rottmann, Bergische Universität Wuppertal
- Markus Schedl, Johannes Kepler Universität Linz
- Frank Schweitzer, ETH Zürich
- Bernhard Seeger, Philipps-Universität Marburg
- Martin Theobald, Université du Luxembourg
- Claudia Wagner, GESIS - Leibniz Institut für Sozialwissenschaften
- Robert West, École Polytechnique Fédérale de Lausanne (EPFL)
- Katharina Anna Zweig, Technische Universität Kaiserslautern