

Discovery Science 2024 - Late Breaking contributions^{*}

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Abstract

In this preface we provide an overview of the Discovery Science 2024 - Late Breaking Contributions. For the first time, this conference introduced a dedicated workshop for late-breaking contributions, presenting novel ideas, early-stage experiments as well as Ph.D. projects. The contributions in this volume cover research in Data Science, Machine Learning and Artificial Intelligence, with a focus on emerging challenges in the field. In particular, this year we observed significant interest in Ethical Artificial Intelligence, especially in areas such as explainability, accountability, fundamental rights, and the development of novel technologies and advancements in Machine Learning. All contributions included in this volume underwent peer review by an international community of researchers.

Keywords

DS2024, Discovery Science, Artificial Intelligence, Data Science, Ethical AI

1. Preface

The Discovery Science 2024 Conference was the 27th edition of this internationally recognized Computer Science conference. This year, the conference served as an engaging forum for discussions and the exchange of new ideas among researchers in the field of Discovery Science. With a focus on the application of Artificial Intelligence, Data Science and Big Data Analytics, the conference encompassed both methodological advancements and practical applications of discovery science across diverse domains. This year's event emphasized the development and analysis of methods for scientific knowledge discovery, drawing on recent advances in machine learning, data mining, intelligent data analysis and big data analytics.

The 27th International Conference on Discovery Science (DS 2024) was held in Pisa, Italy, from October 14-16, 2024. New to DS 2024 was the introduction of a new workshop for late-breaking contributions, encouraging early-stage works and Ph.D. projects to be shared with the community. This initiative fostered an environment for the exchange of innovative ideas and allowed emerging researchers to connect with senior scientists, creating valuable opportunities for collaboration.

Two dedicated sessions attracted over 100 participants, who actively engaged in discussions on contributions spanning diverse fields, including Artificial Intelligence, Data Science, Graph Analysis, Community Discovery, Explainable AI, Ethical AI and Social AI. Due to the high level of interest and the quality of ideas presented, we are pleased to include these contributions in this publication, enriching the scope and diversity of the conference proceedings.

In this volume, we present 23 contributions, each limited to four pages, excluding references. This format was chosen to allow authors to present their ideas as well as preliminary experiments. These contributions were selected through a peer review process conducted by an international panel of researchers, which is listed below. We would like to extend our gratitude to the sponsors who supported this event, as well as to the reviewers. We hope this publication supports ongoing research and encourages new developments in the various fields of Discovery Science.

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