The Workshops of the EDBT/ICDT 2024 Joint Conference

March 25, 2024

Message from the Workshop Chairs:

It is our great pleasure to present on behalf of the entire conference organizing committee and the workshop organizers, the proceedings of the Workshops co-located with the 27th International Conference on Extending Database Technology (EDBT) and the 27th International Conference on Database Theory (ICDT), held on March 25, 2024 in Paestum, Italy.

The EDBT and ICDT series of conferences are prestigious forums for exchanging novel results that extend the foundations and applications of data management technologies. This year, five exciting workshops continue the tradition of focusing on emerging topics in data management, complementing the areas covered by the main technical program (these proceedings include the first four workshops, while the last one runs its own proceedings):

- EDBT PhD Workshop 2024
- Big Mobility Data Analytics (BMDA)
- Data Analytics solutions for Real-LIfe APplications (DARLI-AP)
- Health Data Management in the Era of AI (HeDAI)
- Design, Optimization, Languages and Analytical Processing of Big Data (DOLAP)

We thank the workshop organizers, PC members and external reviewers for their effort in organizing these workshops, and the authors for continuing to submit their high-quality work to the EDBT/ICDT workshops, making these venues successful and intellectually stimulating.

Sincerely,

Themis Palpanas, Université Paris Cité (France)

H V Jagadish, University of Michigan (USA)

EDBT 2024 Ph.D. Workshop

We are happy to present the proceedings of the 2024 EDBT Ph.D. Workshop. The workshop was co-located with the 27th International Conference on Extending Database Technology (EDBT 2024) in Paestum, Italy and was held on March 25, 2024. We assembled a program consisting of four papers accepted out of the six submissions we received. The papers span a wide spectrum of topics relevant in database research.

The workshop program included a keynote presentation by Paolo Papotti (EURECOM, France). Paolo Papotti discussed the career landscape of a Ph.D. in data management and the challenges of identifying the "ideal" career path during postgraduate studies. The program also included a panel discussion with well established members of the database community on "How to write (and receive) reviews". The panelists were: Paolo Missier (Newcastle University, UK), Volker Markl (TU Berlin, Germany), Anastassia Ailamaki (EPFL, Switzerland), Donatella Firmani (Sapienza University of Rome, Italy), Benny Kimelfeld (Technion, Israel), and Sudeepa Roy (Duke University, USA). As an additional support for the Ph.D. students, we offered two forms of mentorship. Each student was mapped to a PC member for individual online feedback sessions based on the submitted paper and review. We also connected the attendees with well established members of the database community for general questions about research during the conference.

We thank Letizia Tanca and Qiong Luo, the EDBT 2024 PC chairs, and Loredana Caruccio and Giuseppe Polese, the general chairs, who entrusted us with this role, and Themis Palpanas and H V Jagadish for coordinating all workshops. We would also like to acknowledge the support of the whole local and technical organizing team. Finally, we thank the workshop program committee, who did a great job evaluating the papers and writing constructive feedback for the authors. We hope the event gave Ph.D. students a good opportunity to share and exchange research ideas with experienced researchers and become members of the friendly and welcoming database community. We wish all participants the very best for their research!

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[Big Mobility Data Analytics (BMDA)](#)

From spatial to spatio-temporal and, then, to mobility data. So, what's next? It is the rise of mobility-aware integrated Big Data analytics. The Big Mobility Data Analytics (BMDA) workshop series, initiated in 2018 with the EDBT Conference, aims at bringing together experts in the field from academia, industry and research labs to discuss the lessons they have learned over the years, to demonstrate what they have achieved so far, and to plan for the future of mobility.

In its 6th edition, the BMDA workshop fostered the exchange of new ideas on multidisciplinary real-world problems, discussing proposals about innovative solutions, and identifying emerging opportunities for further research in the area of big mobility data analytics, such as deep learning on mobility data, edge computing, visual analytics. The workshop contributed to bridge the gap between researchers and big mobility data stakeholders, including experts from critical domains, such as urban and maritime transportation, human complex networks. All papers received three reviews from the program committee, and twelve of them were accepted for presentation during the workshop. Finally, the workshop hosted an invited talk by Konstantinos Tserpes (Harokopio University of Athens) on maritime trajectory classification and clustering.

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- Karine Zeitouni — University of Versailles Saint-Quentin (France)
- Dimitrios Zissis — University of the Aegean (Greece)

Data Analytics solutions for Real-LIfe APplications (DARLI-AP)

Today, we are witnessing two closely connected trends: (1) remarkable advancements in technology across a broad spectrum of devices, enabling the collection of ever-expanding volumes of data, and (2) unprecedented achievements in data science, machine learning, and deep learning. These latter disciplines are recognized as indispensable tools with broad applicability, poised to influence various domains and profoundly impact society.

The practical and effective utilization of data science and machine learning algorithms holds the promise of introducing novel, unconventional approaches to tackling emerging challenges stemming from the vast amounts of real-world data being generated. The substantial potential of these algorithms in real-world applications remains largely untapped. Both academics and practitioners are actively exploring ways in which data science algorithms can imbue real-world applications with intelligence, sparking new research avenues and paving the way for innovative, more efficient, and smarter services.

The DARLI-AP workshop aims to allow academics and practitioners from different research areas to share their experiences developing innovative analytics solutions for real-world applications by leveraging innovative data science, machine learning, and deep learning methods. The DARLI-AP community is growing, and more researchers, academics, and practitioners have contributed to the eighth edition of the workshop. The program includes 16 research papers co-authored by 64 people (roughly 30% female and 70% man) describing innovative methods and algorithms that address all facets of a data analytics process in novel and interesting real-world applications and by design and developing new, unconventional, helpful, and effective data-driven services.

The DARLI-AP 2024 program was enriched by a keynote speaker, Prof. Luca Cagliero, associate professor of the Department of Control and Computer Engineering at Politecnico di Torino. Prof. Luca Cagliero presented his recent research activity entitled "Don't call me just "Outlier"", discussing the latest advances and research opportunities in automatic outlier detection techniques. It is particularly appealing as it enables the discovery of unexpected and potentially harmful patterns.

The organizers of DARLI-AP would like to thank all those who contributed to the success of the eighth edition:
- The authors - for submitting their research papers to the workshop;
- The keynote speaker, Prof. Luca Cagliero, who gave us the honor to present his recent research project and vision at DARLI-AP 2024;
- The members of the Program Committee and the external reviewers who dedicated their time and expertise to provide constructive and very useful feedback to the authors;
- The EDBT/ICDT 2024 chairs - for their trust and valuable support.

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[Health Data Management in the Era of AI (HeDAI)](#)

Better information management is the key to a more intelligent health and social system. In this direction, many challenges must be first overcome, enabling seamless, effective and efficient access to the various health data sets and novel methods for exploiting the available information. HeDAI aims to bring together an interdisciplinary audience interested in the fields of health informatics, data management, AI, semantic web, and to discuss the unique challenges in health-care data management, also including ethical issues, to propose novel and practical solutions for the next generation of data-driven health-care systems.

The submitted papers were reviewed by a Program Committee including 13 international experts in the related fields. Each paper received between three to four reviews. Three papers were accepted for presentation at the workshop. HeDAI program also included two keynotes given by Lucia Sacchi (University of Pavia, Italy) related to the importance of data management in the design of AI-based clinical decision support, and Tommaso di Noia (University of Bari, Italy) related to the importance of explaining health predictions in the era of LLMs. A tutorial about advanced cyberinfrastructure for large-scale health data analysis was given by Praveen Rao (University of Missouri-Columbia, USA).

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