

1st International Workshop on Data Management for Knowledge Graphs (DMKG 2023)

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Abstract

The rapid increase in the adoption of knowledge graphs over the past years, both in the open data domain as well as in industry, means that data management solutions for knowledge graphs today have to support ever increasing amounts of data. In the face of the challenges arising from this problem, such as storing and indexing of knowledge graphs at scale, DMKG 2023 was inviting junior as well as more experienced researchers to discuss their initial ideas and approaches, which may not yet be extensive enough for full conference papers within the areas of Data Management for Knowledge Graphs.

Keywords

Data management, knowledge graphs, Semantic Web, Linked Data, storage and management, analytics and exploration, querying and benchmarking

1. Preface

The DMKG 2023 workshop (<https://dmkg-workshop.github.io/>) provided an open forum for early-stage as well as established researchers, software engineers, industry partners, and domain experts to present and discuss emerging ideas and solutions within the area of Data Management for Knowledge Graphs. Such ideas and approaches include research work that is not yet extensive enough for a full conference publication, but which still facilitates valuable discussions within the community.

The DMKG workshop invited novel research and advances in scalable data management solutions for large-scale knowledge graphs. Such data management solutions include techniques for storage and indexing, partitioning for decentralized/centralized systems, archiving and versioning, validation with SHACL/shEx, or federated data management.


The DMKG 2023 workshop was co-located with the 20th Extended Semantic Web Conference (ESWC 2023) in Hersonissos, Greece, on May 29th, 2023. The co-location of the workshop with ESWC 2023 allowed for facilitating the workshop for a wide audience of knowledge graph

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experts, data scientists, industry partners, and other interested parties. In total, at least 38 participants attended the workshop throughout its duration.

We received a total of 7 submissions for the workshop, 5 of which were accepted for publication and included in the proceedings. Of the 5 accepted papers, 1 was a short paper, 1 was a vision paper, and the remaining 3 papers were regular research papers.

2. Keynote

The program for DMKG 2023 included a keynote by Andreas Harth (Professor of Technical Information Systems at Friedrich-Alexander-Universität Erlangen-Nürnberg) entitled "*Data Management in Planet-Scale Hyperlinked Environments*". In his keynote, Andreas considered the decentralized infrastructure of the Web and important future use cases that this infrastructure is crucial to address. He surveyed recent Web standards that facilitate accessing and manipulating graph-structured representations of the physical world, such as Linked Data, Social Linked Data (Solid), and the Web of Things. Then, he presented systems and applications that operate over interfaces that adhere to these standards. Last, Andreas concluded his talk with an outlook to future developments within decentralized data management for knowledge graphs.

3. Program Committee

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