

Knowledge Graphs in Action: from Theory to Systems and Real-world Applications

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Abstract

Knowledge graphs (KGs) have in recent years gained a large momentum both in academic research and in real-world applications. This is particularly the case in data management, where they have become a bridge between databases, artificial intelligence (AI), data science, the (semantic) web and semantic computing, linked data, and many other areas. In particular, they have become a bridge between logic-based reasoning, and machine learning-based reasoning. Languages for KGs on the one hand, and systems for KGs i.e., Knowledge Graph Management Systems (KGMS) on the other hand, have garnered increasing attention. In this talk, we will give a showcase of real-world applications of knowledge graph management systems, driven by principled theory translating to scalable practice. We will introduce the theory and systems in the area, with a particular spotlight on the Vadalog system and language. We then focus on seeing the system in action through a number of real-world and business applications, including: corporate governance, media intelligence, supply chains, collateral eligibility, hostile takeovers, smart anonymization, and anti-money laundering.

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