

Semantic Search: from Names and Phrases to Entities and Relations

– Invited speech –

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ABSTRACT

Web search is traditionally limited to keyword queries. In the era of Big Data and the Web of Linked Data, one would expect that schema-free search over both text and structured key-value pairs becomes more semantic. Systems should, for example, identify entities in queries and return crisp answers referring to facts, other entities and relationships.

Some of these desired advances are happening now; the Google Knowledge Graph, Microsoft Entity Cube, and IBM's Watson technology for question answering are examples. However, all these systems still have major limitations when dealing with ambiguous names and phrases that need to be mapped to entities and relations in the underlying data and knowledge bases.

This talk discusses recent and ongoing research on disambiguating names and phrases. The presented methods can boost the quality and extent of semantic search, machine reading, knowledge harvesting, and question answering over Web contents.

Speaker Short Bio

Gerhard Weikum is a Research Director at the Max-Planck Institute for Informatics (MPII) in Saarbruecken, Germany, where he is leading the department on databases and information systems.

He is also an adjunct professor in the Department of Computer Science of Saarland University in Saarbruecken, Germany, and he is a principal investigator of the Cluster of Excellence on Multimodal Computing and Interaction.

Earlier he held positions at Saarland University in Saarbruecken, Germany, at ETH Zurich, Switzerland, at MCC in Austin, Texas, and he was a visiting senior researcher at Microsoft Research in Redmond, Washington. He received his diploma and doctoral degrees from the University of Darmstadt, Germany.