



23.07.2019

Call for Bachelor/Master Thesis “Linking Text to Knowledge Graphs at the BMW Group” within a KIT-BMW research project

What is the topic?

Entity linking (or *automatic text annotation*) is the process of linking phrases in a text to the corresponding entries in a knowledge graph (e.g., e.g., “Michael Jordan” → https://en.wikipedia.org/wiki/Michael_I._Jordan in the English Wikipedia). This helps for having a better understanding of what is written in the texts. For instance, analysts can then search for documents also via synonyms (e.g., only “Jordan”) and they can find relevant documents in cases where phrases are ambiguous (see figure on the right).

In the past, several entity linking systems have been developed. In the frame of this thesis, the student will work on entity linking based on a custom knowledge graph from BMW and on BMW-internal text documents, such as customer feedbacks. In a second step, a framework should be developed that combines the custom knowledge graph with publicly available knowledge graphs, such as DBpedia.

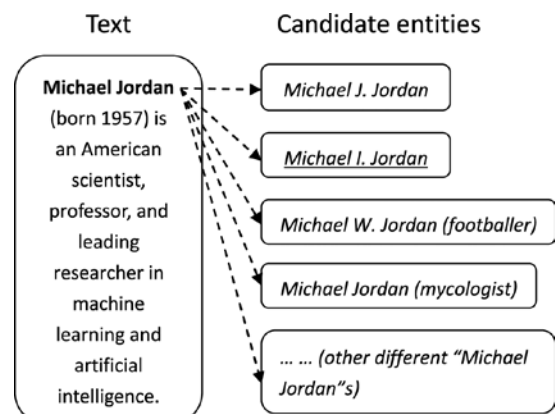


Illustration of entity linking. From: W. Shen, J. Wang and J. Han, "Entity Linking with a Knowledge Base: Issues, Techniques, and Solutions," in IEEE Trans. on Knowledge & Data Engineering, vol. 27, no. 2, pp. 443-460, 2015.

What are the peculiarities of this Master thesis?

The student can work on the thesis first at KIT for some months and then at the BMW Group in Munich (having a Master thesis contract) or vice versa.

Which prerequisites should you have?

We search for students with interests in data science, programming, semantic technologies (RDF knowledge graphs), and machine learning. However, if you would like to work more on a conceptual level with less programming tasks, you are also welcome to apply.

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