First Workshop on Argumentation Knowledge Graphs (ArgKG)

AKBC 2021

https://argkg21.argmining.org

Twitter: @argkgworkshop #argkg2021

Email: argkg@googlegroups.com
Schedule: https://argkg21.argmining.org/schedule.html

October 7, 2021 (Thursday) **Join Link to AKBC 2021 Virtual Hub: https://akbc.ws/2021/virtual**

Keynote 2 (7:10-7:40 AM PT)

Philipp Cimiano

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Philipp Cimiano is a full professor for semantic computing at Bielefeld University. He graduated in computer science from Stuttgart University and obtained his PhD and Habilitation from the Karlsruhe Institute of Technology. His area of expertise is in the field of knowledge-based systems, knowledge representation and management as well as natural language processing. He has done seminal work and published a number of monographs on knowledge acquisition and ontology learning from text as well as ontology-driven interpretation of natural language. He is currently coordinating the priority program RATIO “Robust Argumentation Machines” funded by the German Science Foundation.

Abstract

Conclusion Synthesis: a tale of two towers

In this talk I focus on the task of conclusion synthesis, which consists in (automatically) generating a conclusion given a set of premises. I contrast different approaches to conclusion synthesis ranging from purely knowledge-based through to purely language model based. The knowledge-based approach generates conclusions from a knowledge base by using a template-based approach. The benefit of this method is that it generates conclusions that can be interacted with and scrutinized by a human expert that can challenge the arguments and perform sensitivity analysis to understand how premises systematically relate to the conclusions. The drawback is the need to have formalized knowledge in the application domain, medical decision making in our example case. The purely language model based approach uses a generative model to infer conclusions from (textual) premises and does not require formalized knowledge, and can be applied to any domain. However, the process for

generating conclusions is not transparent in the sense that it is unclear how a system derives conclusions from premises. The argumentation process lacks accountability and does not support critical scrutiny as well as sensitivity analysis by a human counterpart. We draw some conclusions from our observations regarding the potential for bringing the discussed methods together.