UniQORN: Unified Question Answering over RDF Knowledge Graphs and Natural Language Text
Rishiraj Saha Roy

State-of-the-art is fragmented

- Crisp answers to factoid questions enhances user experience
- Curated knowledge graphs and open Web text both valuable sources
- But QA methods in the two paradigms are incompatible to each other
- Fragmented state-of-the-art leads to sub-optimal use of sources

Proposal for a unified framework

- Build context graph (XG) on-the-fly from KG or text with question-specific triples
- For text, induce quasi-KG with Open IE and overlay alignments and types
- Identify question-relevant anchors in XG
- Compute Group Steiner Trees (GST) on XG with anchors as terminals
- Non-terminals in GST are candidate answers, that are ranked
- Method is completely unsupervised, and developed specially for complex questions

Question: director of the western for which Leo won an Oscar...?
[Answer: Alejandro Iñárritu]

UniQORN is a viable solution

- Complex questions from four benchmarks
- UniQORN outperforms or is comparable to state-of-the-art in both setups!
- Robust to syntax errors and noisy sources!
- Provides explanatory evidence for answers!

Joint work with: Soumajit Pramanik, Xiaolu Lu, and Gerhard Weikum