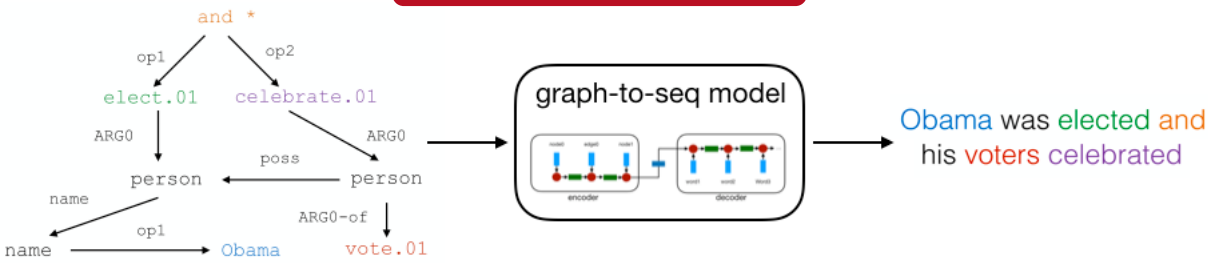
UBIQUITOUS KNOWLEDGE PROCESSING

Bachelor/Master Thesis

TECHNISCHE UNIVERSITÄT DARMSTADT

Generating Text from Graph-based Data

Motivation



Recently, graph-to-sequence models have been applied to the task of text generation from structured data. Usually, these models incorporate Graph Neural Networks (GNNs) as graph encoders for learning effective graph representations. For instance, given a knowledge graph, we are interested in verbalizing a text that reproduces the information contained in the graph. The goal of this project is to develop and research deep learning techniques to generate textual information from graph-based data, such as meaning representations and knowledge graphs.

Task Description

- Improve and extend a graph-to-sequence python framework (PyTorch)
- Study different GNNs as graph/node/edge encoder
- Propose, train and evaluate distinct graph-to-sequence models
- Evaluate the proposed models on the different datasets

References

- Michael Sejr Schlichtkrull, Thomas N. Kipf, PeterBloem, Rianne van den Berg, Ivan Titov, and MaxWelling. Modeling relational data with graph convolutional networks. ESWC 2018.
- Marco Damonte and Shay B. Cohen. Structural Neural Encoders for Amr-to-Text Generation. NAACL 2019.
- Rik Koncel-Kedziorski et al. Text Generation from Knowledge Graphs with Graph Transformers. NAACL 2019.

Analysis	■■■■□
Programming	■■■■□
Literature	■■■■□

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