

TIANQING FANG

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EDUCATION

Hong Kong University of Science and Technology

3rd Year, Ph.D. supervised by *Yangqiu Song*
Department of Computer Science and Engineering

August 2019 - Present

Zhejiang University

B.Eng. in Automation,
Department of Control Science and Engineering
Minor Advanced Class of Engineering Education in Chu Ko Chen Honors College.

2015-2019

GPA: 3.95/4.00, 5%

PUBLICATION

Tianqing Fang*, Weiqi Wang*, Sehyun Choi, Shibo Hao, Hongming Zhang, Yangqiu Song, Bin He. Benchmarking Commonsense Knowledge Base Population with an Effective Evaluation Dataset. Conference on Empirical Methods in Natural Language Processing (EMNLP), 2021 (Main Conference).

- Commonsense Knowledge Base (CSKB) Population is different from Completion as it requires reasoning over unseen assertions in external resources, while Completion only fills missing links within the CSKB.
- Propose a dataset aligning four popular CSKBs, ConceptNet, ATOMIC, ATOMIC₂₀, and GLUCOSE with a large-scale eventuality graph, ASER, to populate commonsense knowledge. ~31K triples are annotated as the evaluation set to check neural models' reasoning ability.
- Developed KG-BertSAGE to better incorporate graph structures in the commonsense reasoning task.

Tianqing Fang, Hongming Zhang, Weiqi Wang, Yangqiu Song, and Bin He. DISCOS: Bridging the Gap between Discourse Knowledge and Commonsense Knowledge. The Web Conference (WWW), 2021.

- Align the Commonsense Knowledge Base ATOMIC with a large-scale eventuality graph ASER. Use the knowledge in ATOMIC as ground-truth to train a reasoning model. Populate ATOMIC with novel edges in ASER .
- Such commonsense knowledge acquisition method can alleviate selection bias and produce more diverse commonsense knowledge.

Tianqing Fang, Haojie Pan, Hongming Zhang, Yangqiu Song, Kun Xu, Dong Yu. Do Boat and Ocean Suggest Beach? Dialogue Summarization with External Knowledge. Conference on Automated Knowledge Base Construction (AKBC). 2021.

- Address the situation where summarization may include something out of the dialogue context but can be implicitly inferred. Develop a knowledge-attention network to tackle this problem and achieves promising results.

Nedjma Ousidhoum, Xinran Zhao, **Tianqing Fang**, Yangqiu Song, and Dit-Yan Yeung. Probing Toxic Content in Large Pre-Trained Language Models. Annual Meeting of the Association for Computational Linguistics (ACL). 2021.

- Use templates to probe pre-trained language models to check if there are offensive knowledge regarding minority groups. Evidence shows that negative contents can be triggered benign contexts. Can serve as a pipeline to test the toxicity by language models.

Preprints:

Hongming Zhang*, Xin Liu*, Haojie Pan*, Haowen Ke, Jiefu Ou, **Tianqing Fang**, and Yangqiu Song. ASER: Towards Large-scale Commonsense Knowledge Acquisition via Higher-order Selectional Preference over Eventualities. 2021, arXiv: 2104.02137.

ACADEMIC ACHIEVEMENTS

- Hong Kong Ph.D. Fellowship (2019-2023)
- Special Scholarship for Undergraduate Students in Zhejiang University (One of the highest awards for undergraduates) (2018)
- 1st Place and MATLAB Innovation Award in Contemporary Undergraduate Mathematical Contest in Modeling (The most authoritative mathematical modeling competition in China) (2017)
- National Scholarship (ZJU, 2016)

SKILLS

Programming skills: C++, Python

Languages: English (TOEFL 110, 26 in speaking), Mandarin Chinese (Native).

Besides research: Photography: I take pictures on weekends. Street scenery is my favorite.