Tianqing Fang

Email : tfangaa@cse.ust.hk

http://www.fangtq.com

Research Interest

- Natural Language Processing
- Commonsense Knowledge Acquisition and Reasoning

Education

- **Hong Kong University of Science and Technology** — Hong Kong SAR, China
  Ph.D. of Computer Science; Supervisor: Yangqiu Song — *Aug. 2019 – Present*
- **Zhejiang University** — Hangzhou, China
  B.E. of Automation; GPA: 3.94/4.00, top 5%; Supervisor: Yang Yang — *Aug. 2015 – June. 2019*
  Minor Advanced Class of Engineering Education in Chu Ko Chen Honors College

Experience

- **NVIDIA (Hong Kong)** — Hong Kong SAR, China
  Research Intern — *Feb. 2022 - Present*
  Semi-supervised learning on commonsense reasoning

Publications

Conference:

- **Benchmarking Commonsense Knowledge Base Population with an Effective Evaluation Dataset**
  - ***Tianqing Fang****, Weiqi Wang*, Sehyun Choi, Shibo Hao, Hongming Zhang, Yangqiu Song, Bin He*
  - 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, ATOMIC$^{20}_{20}$, 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.

- **DISCOS: Bridging the Gap between Discourse Knowledge and Commonsense Knowledge**
  - ***Tianqing Fang****, Hongming Zhang, Weiqi Wang, Yangqiu Song, and Bin He.*
  - 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.

- **Do Boat and Ocean Suggest Beach? Dialogue Summarization with External Knowledge**
  - ***Tianqing Fang****, Haojie Pan, Hongming Zhang, Yangqiu Song, Kun Xu, Dong Yu.*
  - 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.

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

- **Weakly Supervised Text Classification using Supervision Signals from a Language Model**
  *Ziqian Zeng, Weimin Ni, **Tianqing Fang**, Xiang Li, Xinran Zhao, and Yangqiu Song.*
  Findings of Annual Conference of the North American Chapter of the Association for Computational Linguistics (Findings of NAACL). 2022.

Journal:

- **ASER: Towards Large-scale Commonsense Knowledge Acquisition via Higher-order Selectional Preference over Eventualities**
  Hongming Zhang, Xin Liu*, Haojie Pan*, Haowen Ke, Jiefu Ou,* ***Tianqing Fang****, and Yangqiu Song.*
  Artificial Intelligence. 2022

Preprint:

- **Acquiring and Modelling Abstract Commonsense Knowledge via Conceptualization**
  Mutian He, ***Tianqing Fang****, Weiqi Wang, and Yangqiu Song.*
  arxiv.2206.01532, 2022

Academic Achievements

- HKUST RedBird Academic Excellence Award for Continuing PhD Students in 2021/22 (2022)
- 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 (1st/36k+) in Contemporary Undergraduate Mathematical Contest in Modeling (The most authoritative mathematical modeling competition in China) (2017)
- National Scholarship (top 3%, ZJU, 2016)

Skills

- **Programming skills**: C++, Python
- **Languages**: English (TOEFL 110, 26 in speaking), Mandarin Chinese (Native).
- **Miscs**: I enjoy taking pictures. Street scenery is my favorite.