YIHENG SHU

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EDUCATION & EXPERIENCE

Master of Computer Technology, Nanjing University — *Sep. 2020 - Jun. 2023*
Advised by Prof. Yuzhong Qu. — GPA: 90.96 / 100

Bachelor of Software Engineering, Northeastern University, China — *Sep. 2016 - Jun. 2020*
Advised by Prof. Guibing Guo and Prof. Gang Wu. — GPA: 4.1073 / 5.0 (top 1.7%)

Research Intern, Microsoft Research Asia — *Feb. 2022 - Dec. 2022*
Advised by Zhiwei Yu, Knowledge Computing group

RESEARCH INTERESTS

My research interests include question answering, knowledge graph and other NLP topics. Currently I focus on knowledge base question answering (**KBQA**), trying to address challenges such as generalizability and data sparsity.

PUBLICATIONS

TIARA: Multi-grained Retrieval for KBQA. (**EMNLP'22**) — *Feb. 2022 - Jun. 2022*

Yiheng Shu, Zhiwei Yu, Yuhan Li, Börje Karlsson, Tingting Ma, Yuzhong Qu, Chin-Yew Lin.

- Multi-grained retrieval and constrained decoding to help pre-trained models (T5) to generate logical forms.
- It performs better than all 9 competitors on GrailQA under both *compositional* and *zero-shot* generalization.

Query Generation via Multi-task Learning for KBQA. (**COLING'22**) — *Dec. 2021 - May. 2022*

Xixin Hu, Xuan Wu, ***Yiheng Shu***, Yuzhong Qu.

- Multi-task learning for relation classification, entity disambiguation and query generation.
- Performance improved on all tasks. State-of-the-art on ComplexWebQuestions and WebQuestionsSP.

EDG-based Question Decomposition for Complex KBQA. (**ISWC'21**) — *Sep. 2020 - Apr. 2021*

Xixin Hu, ***Yiheng Shu***, Xiang Huang, Yuzhong Qu.

- An entity-centric question decomposition to help component linking and subquery composition. QA on DBpedia achieves state-of-the-art on both LC-QuAD (F1 improved by 39.74%) and QALD-9 (both 4 competitors).
- Participated in the relation linking, decomposition quality evaluation, ablation study, etc.

Deep Learning for Sequential Recommendation. (**TOIS'20**; **ICWE'19** tutorial) — *Nov. 2018 - May 2019*

Hui Fang, Danning Zhang, ***Yiheng Shu***, Guibing Guo.

- The survey proposes the concept of sequential recommendation, summarizes approaches based on behavioral sequences (experience, transaction, or interaction), summarizes the key factors affecting the performance of DL models, demonstrates these factors through experiments, and discusses future research directions and challenges.
- Participated in the implementation of some prototype methods (user dwell time, user modeling, data enhancement, etc.) for survey evaluation and paper writing.

HONORS & AWARDS

NJU First Class Academic Scholarship for Master Students — *2020 - 2022*

Outstanding Graduates in Liaoning Province (top 3%) — *2020*

Meritorious Winner in MCM/ICM (international top 7%) — *2019*

NEU Pacemaker to Outstanding Student (top 1%) — *2018*

National Scholarship (top 3%) — *2018*