YIHENG SHU

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EDUCATION & EXPERIENCE

Master of Computer Technology, Nanjing University *Sep. 2020 - Jun. 2023*
Advised by Prof. Yuzhong Qu. Direction: Question Answering / Knowledge Graph. Grade: 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 (91.073 / 100, top 1.7%)

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

RESEARCH

Retrieval-augmented Knowledge Base Question Answering. (Submit to **EMNLP 22'**) *Feb.2022 - Present*

Working in progress as ***first author***.

- Dense schema retrieval and constrained decoding to help pre-trained models (e.g., T5) to generate formal queries.
- It performs better than all 9 competitors on GrailQA under both *compositional* and *zero-shot* generalization.

Query Generation via Multi-task Learning for KBQA. (Submit to **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. All tasks improved.

QDT for Answering Complex Questions over KBs. (Submit to **ISWC 22'**) *Jun. 2021 - Apr. 2022*

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

- Question Decomposition Tree. State-of-the-art in LC-QuAD and ComplexWebQuestions (6 competitors).
- Responsible for the development and experiment of the staged query generation, with part of paper writing.

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 *2021*

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*