

# YIHENG SHU

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## EDUCATION

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**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

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**Research 1** Research Internship of Microsoft Research Asia *Feb. 2022 - Present*

Knowledge Computing group. To be submitted at EMNLP 22'.

- To improve the ability of pre-trained models (e.g., T5) to generate knowledge base queries with dense schema retrieval and constrained decoding.
- It has achieved state-of-the-art on GrailQA valid and test set with both compositional generalization and zero-shot settings.

**Research 2** Question Decomposition Tree for Answering Complex Questions over KBs *Jun. 2021 - Present*

Xiang Huang, **Yiheng Shu**, Xixin Hu, Xuan Wu, Yuzhong Qu. To be submitted at ISWC 22'.

- Question decomposition tree (QDT) is proposed to represent the decomposition structure of questions. The QA method has achieved state-of-the-art performance in LC-QuAD and ComplexWebQuestions.
- Responsible for the development and experiment of the staged query generation, with part of paper writing.

**Research 3** EDG-based Question Decomposition for Complex Question Answering *Sep. 2020 - Apr. 2021*

Xixin Hu, **Yiheng Shu**, Xiang Huang, Yuzhong Qu. Accepted by **ISWC 21'**.

- An entity-centric question decomposition method is proposed to represent the question structure in order to handle component linking and subquery composition, and a QA system on DBpedia is implemented. It has achieved state-of-the-art on both LC-QuAD and QALD-9.
- Participated in the development of the relation linking and experiments including decomposition quality evaluation, ablation study, etc.

**Research 4** Deep Learning for Sequential Recommendation *Nov. 2018 - May 2019*

Hui Fang, Danning Zhang, **Yiheng Shu**, Guibing Guo. Accepted by **TOIS 20'**, presented as ICWE 19' tutorial.

- The survey proposes the concept of sequential recommendation, summarizes existing approaches based on three types of behavioral sequences (experience, transaction, and interaction), summarizes the key factors affecting the performance of deep learning models, demonstrates these factors through experiments, and systematically discusses future research directions and challenges.
- Participated in the implementation of some algorithms (user dwell time, user modeling, data enhancement, etc.) in the experiments and paper writing.

## HONORS & AWARDS

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NJU First Class Academic Scholarship for Master Students (top 20%) *2021*

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

Meritorious Winner in MCM/ICM (international top 6.79%) *2019*

NEU Pacemaker to Outstanding Student (top 1.2%) *2018*

National Scholarship (top 3%) *2018*