YIHENG SHU (舒意恒)

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EDUCATION & EXPERIENCE

Ph.D. Student in Computer Science, The Ohio State University *Columbus, OH, Aug. 2023 - Now*
Advised by Prof. Yu Su, OSU NLP Group

Master in Computer Technology, Nanjing University *Nanjing, China, Sep. 2020 - Jun. 2023*
Advised by Prof. Yuzhong Qu, Websoft Research Group GPA: 90.96 / 100

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

Full-time Research Intern, Microsoft Research Asia *Beijing, China, Feb. 2022 - Feb. 2023*
Advised by Researcher Zhiwei Yu, Knowledge Computing Group

RESEARCH INTERESTS

My research interests include language agents and retrieval-augmented generation (RAG): 1) how to ground large language models to real-world environments, and 2) how to retrieve from environments and augment large language models.

PUBLICATIONS

9. HippoRAG: Neurobiologically Inspired Long-Term Memory for Large Language Models

[arXiv 2024] Bernal Jiménez Gutiérrez, **Yiheng Shu**, Yu Gu, Michihiro Yasunaga, Yu Su

8. Middleware for LLMs: Tools Are Instrumental for Language Agents in Complex Environments

[arXiv 2024] Yu Gu, **Yiheng Shu**, Hao Yu, Xiao Liu, Yuxiao Dong, Jie Tang, Jayanth Srinivasa, Hugo Latapie, Yu Su

7. Distribution Shifts Are Bottlenecks: Extensive Evaluation for Grounding Language Models to Knowledge Bases

[EACL'24 SRW] **Yiheng Shu**, Zhiwei Yu

6. Question Decomposition Tree for Answering Complex Questions over Knowledge Bases

[AAAI'23] Xiang Huang, Sitao Cheng, **Yiheng Shu**, Yuheng Bao, Yuzhong Qu

5. TIARA: Multi-grained Retrieval for Robust Question Answering over Large Knowledge Base

[EMNLP'22] **Yiheng Shu**, Zhiwei Yu, Yuhan Li, Börje F. Karlsson, Tingting Ma, Yuzhong Qu, Chin-Yew Lin

4. Logical Form Generation via Multi-task Learning for Complex Question Answering over Knowledge Bases

[COLING'22] Xixin Hu, Xuan Wu, **Yiheng Shu**, Yuzhong Qu

3. EDG-based Question Decomposition for Complex Question Answering over Knowledge Bases

[ISWC'21] Xixin Hu, **Yiheng Shu**, Xiang Huang, Yuzhong Qu

2. Deep Learning for Sequential Recommendation: Algorithms, Influential Factors, and Evaluations

[TOIS'20] Hui Fang, Danning Zhang, **Yiheng Shu**, Guibing Guo

1. Deep Learning-based Sequential Recommender Systems: Concepts, Algorithms, and Evaluations

[ICWE'19 tutorial] Hui Fang, Danning Zhang, Guibing Guo, **Yiheng Shu**

SELECTED HONORS & AWARDS

First-class Yingcai Scholarship, Nanjing University *2022*

First-class Academic Scholarship for Master Students, Nanjing University *2020 - 2022*

Provincial Excellent Graduates (top 3%), Education Department of Liaoning Province *2020*

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

Suzhou Industrial Park Scholarship(top 5%), Northeastern University (China) *2019*

Pacemaker to Outstanding Student (top 1%), Northeastern University (China) *2018*

National Scholarship (top 3%), Ministry of Education of the P.R. China *2018*

Last modified: Aug., 2024