

HAOYU HUANG

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Education

The Chinese University of Hong Kong

Master of Science in Computer Science

Research Topic: Knowledge Graph, Large Language Model

Supervisor: Prof. James Cheng

Sep. 2024 – July 2025

Hong Kong, SAR, China

Beijing Jiaotong University

Bachelor of Engineering in Computer Science

Research Topic: Knowledge Graph, Recommendation

Supervisor: Prof. Huaiyu Wan

Sep. 2019 – July 2023

87.4/100 | 3.68/4.0, Beijing, China

Publications

(# corresponding author, * equal contribution)

Can LLMs be Good Graph Judger for Knowledge Graph Construction?

Haoyu Huang, Chong Chen, Conghui He, Yang Li, Jiawei Jiang, Wentao Zhang[#]

- Manuscript submitted to ICDE 2025.
- The leader of the work. Proposed the idea and independently completed all the codes and experiments.
- Contributes: 1) We seek to utilize the capacity of LLMs to function as a graph judger, a capability superior to their role only as a predictor for KG construction problems; 2) We utilize a fine-tuned open-source LLM to judge the triples generated by another closed-source LLM.

Next-POI Recommendation with Spatial-Temporal Knowledge Graph and Pre-trained Language Model

Wei Chen^{}, Haoyu Huang^{*}, Tianyi Wang, Zhiyu Zhang, Shengnan Guo, Youfang Lin, Huaiyu Wan[#]*

- Manuscript submitted to TKDE 2024 with major revision.
- The co-leader of the work. Proposed a part of the idea and independently completed all the codes and experiments.
- Contributes: 1) Proposed STKG contrastive learning method that effectively tackles the issue of knowledge noise in trajectories; 2) Converts the structured sequence data into unstructured trajectory text, allowing the advantages of PLM in semantic modeling can be used to capture user movement trajectories.

Building and Exploiting Spatial-Temporal Knowledge Graph for Next POI Recommendation

Wei Chen, Huaiyu Wan[#], Shengnan Guo, Haoyu Huang, Shaojie Zheng, Jiamu Li, Shuohao Lin, Youfang Lin

- Published on Knowledge-Based Systems (KBS) 2022
- Independently completed the writing of code and the experiments for six baseline models, as well as the data cleaning and processing of the models.
- Contributes: 1) Propose STKG for the first time without relying on any external attributes of users and POIs in the field of the next POI recommendation; 2) A novel spatial-temporal transfer relation in STKG is designed to explicitly express movement behaviors among POIs of users.

Academic Experience

The Chinese University of Hong Kong

Research Assistant

Sep 2024 – Now

Supervisor: Prof. James Cheng

- Currently focus on the topic about how to improve the performance of community search in GraphRAG.
- Proposed a method to do graph clustering semantically in the GraphRAG system.

Peking University

Research Intern

Mar 2024 – Now

Supervisor: Prof. Wentao Zhang

- Conduct research on the combination of Graph and Large Language Models (LLMs) for creation of graph foundation model.
- Proposed a novel method to let Large Language Models understand graph structure feature better as the project leader. And we won the Huawei Spark Award with the proposed methods.
- Proposed a novel method to transform natural language text to structured knowledge graphs. And the paper has been submitted to ICDE 2025 as the first author.

Century Games

Jul 2023 – Dec 2023

AI Engineer Intern

Mentor: Yuanlei Niu

- Conduct AI+Game product research and development. My main projects include the development of game NPC language module, classification and analysis of game feedbacks with LLM.
- Responsible for the back-end development of the LLM-based product, FAWKES.

Beijing Jiaotong University

Apr 2021 – Nov 2023

Research Intern

Supervisor: Prof. Huaiyu Wan

- Proposed the use of spatio-temporal knowledge graph to mine the mobile trajectory preferences of social media users, solving the data sparsity problem.
- Proposed the use of large language models to learn the preferences of social media users, achieving state-of-the-art (SOTA) performance.
- Published a paper as the fourth author in Knowledge-Based Systems 2022 (SCIE-AN1). And submitted another paper as the co-first author to TKDE 2024.

Awards

Huawei Spark Award	2024
Second Prize of Huawei Cup-The China Post-Graduate Mathematical Contest in Modeling (CPMCM)	2024
Entrance Scholarship 2024-25 of CUHK-CSE	2024
Beijing Jiaotong University Social Work Scholarship	2022
Beijing Jiaotong University Third Class Scholarship for Academic Excellence	2021
Third Prize of Mathematical Modelling Competition for College Students of Beijing Jiaotong University	2021
Second Prize of Programming Competition for College Students of Beijing Jiaotong University	2021
First Prize in Mathematics Competition for College Students of Beijing Jiaotong University	2021
Bronze Award in the National College Student Algorithm Design and Programming Challenge	2020

Technical Skills

Programming Skills: Python, Pytorch, C, C++, C#, Shell, SQL, ELK, Unity.

Languages: English: IELTS (overalls: 6.5), Mandarin Chinese: Native

Leadership / Extracurricular

Science and Technology Association of BJTU

2020 – 2023

Cochairman

Beijing Jiaotong University

- * Organized science and technology activities such as "Science and Technology Star" scholarship defense and famous teacher lecture hall for students in the college.