Junkai Chen

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Personal Representation

I have consistently maintained an exemplary academic record, achieving a high GPA of 3.79/4. My strong dedication and profound commitment to my studies have enabled me to excel in advanced programming and algorithm design. I possess a solid foundation in computer science, with demonstrated proficiency in several programming languages, including Python and C++.

In the realm of research, my primary focus is on Multimodal Large Language Models (MLLM), including aspects of hallucination and Explainable Artificial Intelligence. I am familiar with the architectures of existing large language models and vision-language models. These knowledge allows me to navigate and innovate within the field effectively.

My robust capacity for learning and self-motivation fuels my deep passion for academic pursuits, driving me to explore complex problems and seek innovative solutions in artificial intelligence.

Publications

C=Conference, J=Journal, P=Patent, S=In Submission, T=Thesis

C.1 KeningZheng*, **Junkai Chen***, Yibo Yan, et al. **Reefknot: A Comprehensive Benchmark for Relation Hallucination Evaluation, Analysis and Mitigation in Multimodal Large Language Models** **(Under Review)**.

C.2 XinZou, YizhouWang, YiboYan, SiruiHuang, KeningZheng, **Junkai Chen**, et al. **Look Twice Before You Answer: Memory-Space Visual Retracing for Hallucination Mitigation in Multimodal Large Language Models** **(Under Review)**.

C.3 Zhangqi Jiang*, **Junkai Chen***, Beier Zhu, Tingjin Luo, Yankun Shen, Xu Yang, et al. **Devils in Middle Layers of Large Vision-Language Models: Interpreting, Detecting and Mitigating Object Hallucinations via Attention Lens** **(Under Review)**.

Project

Construction of Spatio-Temporal Knowledge Graph of Railway Stations Nov. 2023 – Present
State-level Innovation Training Programme for University Students

- Constructed a Spatio-Temporal Knowledge Graph for Isochronous Influence Domain of Railway Stations
- Grab information from a map within an isochronous circle and analyzing it
- Create an online platform to provide information of subway station

Pre-training method of medical image base model for low-resource scenarios Nov. 2023 – Present
State-level Innovation Training Programme for University Students

- Organiz a multimodal dataset with rich expert knowledge based on four books in the medical field
- Train a large vision language model based on the dataset
- A user-oriented visualization platform for fundus specialist consultation is being built

In-Context Learning Based on Large Vision Language Models Apr. 2024 - Present
Key Laboratory of New Generation Artificial Intellgence Technology

- Focus how ICL work in large vision language models
- Detect the ICL neuron in LVLM
- Exploring the inner state of ICL in LVLM

Education

Southeast University Nanjing China
B.Sc. in Artificial Intelligence GPA(3.79/4) *2022-2026(expected)*

Relevant Courses:
Mathematical Analysis(90/100), Linear Algebra(88/100), Programming & Algorithmic Language(95/100), Probability Statistics & Stochastic Proceess(92/100), Data structures(89/100), Operating System(97/100).

Experience

Interns Guangzhou China
The Hong Kong University of Science and Technology (Guangzhou) *2024.6-2024.8*

Competition Awards

2023 International Mathematics Modeling Contest for Higher Education————**Finalist**

2023 Huazhu Cup National University Students Mathematical Modeling Competition——**Excellence Award**

Languages

English [Basic] (CET4:535 CET6:481)