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Summary

I am currently a senior, pursuing a dual major in Electrical and Computer Engineering at Shanghai Jiao Tong University and Data Science at the University of Michigan. My academic and research interests are deeply rooted in Natural Language Processing and Multimodal Learning. Presently, I am engaged as an undergraduate research assistant in the SLED lab.

Education

Shanghai Jiao Tong University Electrical and Computer Engineering, B.Eng. University of Michigan Data Science, B.Sc.

Project Experience

• DIGNP: Dynamic Indicator-Goal Network for Prioritization

- Developed a dynamic model for UN's SDGs prioritization using System Dynamics and network analysis
- Applied ARIMA for future evolution forecasting and Entropy Weight Method for priority establishment
- Won Outstanding Winner (Top 0.16%) and AMS Award in ICM 2023

• Federated Learning-Based Campus Data Analysis

- Collaborated with SJTU Network Information Center to implement privacy-preserving federated learning system using PyTorch and FedProx for campus data analysis
- Developed student performance prediction models with differential privacy and transfer learning techniques for data protection and cross-domain knowledge utilization

Multi-Object Hallucination in Vision-Language Models

- Developed ROPE (Recognition-based Object Probing Evaluation), an automated evaluation protocol for assessing multi-object hallucination in vision-language models
- Conducted comprehensive analysis of model behaviors and potential factors leading to multi-object hallucination, including data distribution, object salience, and model intrinsic behaviors

Publications

• NeurIPS 2024: Multi-Object Hallucination in Vision-Language Models Xuweiyi Chen*, Ziqiao Ma*, Xuejun Zhang*, Sihan Xu, Shengyi Qian, Jianing Yang, David F. Fouhey, Joyce Chai. (*alphabetical order, equal contributions)

Achievements

- Dec 2022: 2021-2022 Academic Year Merit Scholarship at Shanghai Jiao Tong University
- May 2023: Outstanding Winner and AMS Award in Interdisciplinary Contest In Modeling (Top 0.16%)
- May 2023: Runner-up in Tennis Team Event at the 2023 Shanghai Jiao Tong University General Cup
- Jul 2023: Future Technology Taihu Scholarship
- Dec 2023: Dean's Honor List & University Honors
- May 2024: Dean's Honor List & University Honors
- Oct 2024: NeurIPS 2024 Scholar Award

Experience & Services

- Teaching Assistant of Academic Writing
- Advisor of UMJI Advising Center

- Reviewer of ICLR2025
- Reviewer of ARR

Skills

- Programming Languages: C, C++, Python, R, SQL, MATLAB, Verilog
- Relevant Coursework: Computer Vision, Natural Language Processing, Data Mining, Bayesian Data Analysis, Database Management Systems, Machine Learning Algorithm, Data Structure & Algorithm

September 2021 - July 2025

August 2023 – May 2025

ICM 2023

PRP 2023 learning

NeurIPS 2024