Keyang Xuan

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Education

University of Illinois, Urbana-Champaign, Master in Computer Science — Aug 2023 – May 2025

- GPA: 4.0/4.0
- **Coursework:** Web Programming, Advanced NLP, Text Information System, Distributed System, ML System, Data Mining Principle

University of Minnesota, Twin Cities, BS in Computer Science; BS in Data Science — Sept 2019 – May 2023

- GPA: 3.92/4.0
- **Coursework:** Computer Architecture, Computer Vision, Deep Learning in NLP, Advanced Machine Learning, Discrete Math, Theory of Probability, Applied Statistics, Operating System, User Interface Design, DB System, Optimization in Machine Learning

Research Interest

My research interests center on LLM agents, emphasizing their trustworthiness, adaptability, and the integration of computational social intelligence.

Publications

ResearchTown: Simulator of Human Research Community — Under Review

Haofei Yu, Zhaocheng Hong, Zirui Cheng, Kunlun Zhu, ***Keyang Xuan***, Jinwei Yao, Tao Feng, Jiaxuan You

APILOT: Navigating Large Language Models to Generate Secure Code by Sidestepping Outdated API Pitfalls — Under Review

Weiheng Bai, ***Keyang Xuan***, Pengxiang Huang, Wu Qiushi, Jianing Wen, Jingjing Wu, Kangjie Lu

LEMMA: Towards LVLM Enhanced Multimodal Misinformation Detection with External Knowledge Augmentation — KnowledgeLM @ ACL24

Keyang Xuan, Yi Li, Fan Yang, Ruochen Wu, Yi R. Fung, Heng Ji

Spatiotemporal Classification with limited labels using Constrained Clustering for large datasets — SDM23

Praveen Ravirathinam, Rahul Ghosh, Ke Wang, ***Keyang Xuan***, Ankush Khandelwal, Dugan Hilary, Paul Hanson, Vipin Kumar

Acadmic Experience

University of Illinois, U Lab — Sept 2024 – Present

- Developed benchmark for evaluating graph based Multi-agent simulator for human research community.

University of Illinois, Blender Lab — Dec 2023 – Jun 2024

- Proposed retrieval-augmented based method to improve GPT4V performance on multimodal misinformation detection.

University of Minnesota, Security Lab — Jun 2023 - Jun 2024

- Proposed retrieval-augmented based moderation on Copilot to improve robustness of code recommendation.
- Designed AST-based method to improve the accuracy of code sanitizer in LLMs.

University of Minnesota, Data Mining Lab — Jun 2022 - Jun 2023

- Applied constrained loss and LSTM-CNN based framework to enhance the classification performance on our newly proposed global waterbody dataset.

University of Minnesota, Neuroscience Department Lab — Apr 2022 - Dec 2022

- Conducted research related to brain and behavior relationships.
- Designed motion tracking algorithm based on Fourier Transform to track mice motion status.

Industrial Experience

Research Intern, National Renewable Energy Laboratory Jan 2024 – Present

- Investigate grid edge resource flexibility prediction with social impact integrated.
- Develop Advanced Non-intrusive Load Disaggregation Method for household energy consumption.

Quantitative Analyst Intern, CITIC Future Jun 2021 - Aug 2021

- Implemented Double Moving Average Model and rigorously assessing its suitability across diverse commodity futures markets consumption.

Data Analyst Intern, Shanghai Metro Data Tech May 2021 - Jun 2021

- Crafted SQL queries to precisely extract essential data in alignment with BI product design requirements.

Open Source Project

ResearchTown: Graph based simulator for Human Research Community

- Core maintainer for the release of researchtown package.
- Tools Used: Python, React.js

Study Buddy

- Developed Study Buddy, a MERN stack-based task management and academic planning platform.
- Tools Used: MongoDB, Express, React.js, Node.js

Academia Services

Program Reviewer: ACL Rolling Review 2024

Technologies

Languages: C/C++, Java, Python, JavaScript, HTML/CSS, MATLAB, R, Node.js

Technologies: Git/GitHub, Unix Shell, VS Code, IntelliJ IDEA, Atom, R Studio, Postman