Frank(Hua) TANG

+86 133 5726 3957 | @ 2023126578@sjtu.edu.cn | GitHub | Homepage

Education

Shanghai Jiao Tong University **June 2025 (Expected)**

Bachelor of Engineering in Industrial Engineering

Minor in Mathematics and Applied Mathematics

- **Core Courses:** Stochastic Process, Functional Analysis, Partial Differential Equations, Probability and Mathematical Statistics, Operations Research, Big Data Analysis, Data Structure, Real Analysis (Ongoing)

Selected Publications

Hua Tang, Mingyu Jin, Lu Cheng, Yongfeng Zhang, Mengnan Du. On the Degradation of Underrepresented Groups When Mitigating Bias. Submitted to ***European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases***, 2024.

Hua Tang, Chong Zhang, Mingyu Jin, Qinkai Yu, Chengzhi Liu, Suiyuan Zhu, Yongfeng Zhang, Mengnan Du. Time Series Forecasting with LLMs: Understanding and Enhancing Model Capabilities. Submitted to ***The 2024 Conference on Empirical Methods in Natural Language Processing***, 2024.

Selected Research Experiences

LLM-based Fair Tabular Classification and Self-reflection July 2024 – Now

Co-worker: Qitian Yang, Independent Researcher

- Develop methods to induce LLMs to autonomously combine original features, generate rules for feature engineering, and integrate both rules and fairness interventions, enabling cost-effective control of algorithmic fairness.
- Differentiate between recognition and refinement processes, analyze the impact of internal reflection versus external tools, and develop new methods grounded in critical thinking.

(Pre-trained) LLMs' Preferences towards Time-series forecasting Jan. 2024 – Apr. 2024

Supervisor: Prof. Mengnan Du, Assistant Professor, New Jersey Institute of Technology

- Investigate the preferences of the pre-trained LLMs in the context of time series forecasting, and discover that LLMs prefer the series with stronger seasonal and trend strength. Also, it elucidates that pre-trained LLMs have the potential to predict the underlying cycles of the series, and are capable of capturing the short-term period.
- Submitted a first-authored manuscript to the *The 2024 Conference on Empirical Methods in Natural Language Processing*, 2024.

Potential Degradation of the Underrepresented Groups Jan. 2024 – Apr. 2024

Supervisor: Prof. Mengnan Du, Assistant Professor, New Jersey Institute of Technology

- Characterized the conditions for the potential degradation of the underrepresented groups while improving Algorithmic fairness, and conducted experiments on the real datasets to further illustrate it.
- Submitted a first-authored manuscript to the *European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases*, 2024.

Working Experience

Agent Planning with LLM-MCTS: Research Intern in Baidu July 2024 - Now

Mentor: Lingyong Yan, Senior Researcher, Baidu

Selected Awards & Honors

2nd Price in 18th National Competition of Transport Science and Technology for Undergraduate Students (NACTranS) (Top 5%) 2023

Meritorious Winner in the Mathematical Contest in Modeling (Top 20%) 2022

1st Price in 17th "Dongfeng Nissan Cup" Tsinghua IE Sword National Industrial Engineering Case Study Competition (Top 8%) 2022