Zhang Jiahao

https://jiahaozhang-public.github.io/

Email: jiahao.zhang.public@gmail.com
Mobile/Wechat: +86 18798796059

Research Interest

My research interest includes

- Fintech: Utilizing LLMs to develop textual analysis in asset pricing and portfolio management.
- Machine Learning and AI: I am curious about finding the potential ability of the most advanced LLM to deal with real-time physical signals, which may have future applications in the Internet of Things (IoT), and discovering the possibility of LLM as a decision-making brain for AI agents.
- AI+Life Science: I am very interested in protein editing and designing highly reliable protein editing models with significant life science implications.

Education

- **Huazhong University of Science and Technology** 09/2021 - 06/2025
  Major: Electronic Packaging Technology — GPA: 85.4/100
  - **Key Courses**: Computational Methods, Principle of Microcomputer,Stochastic Process,Signals and System
- **UC Berkeley** 01/2024 - 05/2024
  visiting student via BGA program— GPA: 3.57/4
  - **Key Courses**: Data Structure, Artificial Intelligence

Research Experience

- **Research Assistant, AI Lab,Chaowei Xiao,UW-Madison** October 2023 - December 2023
  - **LLM Benchmark Project**: Involved in designing a benchmark for coding detection and repair in LLMs. The project aims to provide an automated benchmark for evaluating the code generation and modification capabilities of LLMs.
  - **Contributions**: Key role in data preparation, experimental design, and execution. Collaborated closely with Fangzhou Wu and Qingzhao Zhang in benchmark development
  - **Technical Skills**: Proficient in Python, machine learning libraries with a focus on Transformers and PyTorch. Experienced in handling large datasets and applying advanced data analysis techniques.
- **Research Intern, Quantitative Finance Group, HUST** March 2023 - December 2023
  - **Project under Professor Wei Jie**: Engaged in integrating machine learning with quantitative finance. Focused on the application of statistical models, reinforcement learning, and deep learning to predict market trends and optimize trading strategies.
  - **Research Activities**: Conducted comprehensive studies on advanced ML techniques for financial data analysis and algorithmic trading.
  - **Skills Developed**: Gained expertise in Python,Pytorch, scikit-learn, and data analysis. This experience significantly contributed to my interest in ML applications in finance.

Project Experience

- **Data Science Research Intern, Grapedata** January 2024 - May 2024

  - **GPT Insight Generator for Survey Data**: Developed an insight generator utilizing GPT-4.0 to analyze and generate insights from survey data.
    - **Two-Step Fine-Tuning Method**: Implemented a two-step fine-tuning approach to train the LLM, focusing on statistical analysis and pattern recognition to enhance insight generation.
    - **Insight Generation**: Generated insights by creating structured prompts and leveraging LLM capabilities to analyze survey responses, including sentiment analysis and topic modeling for open-ended questions, and descriptive statistics for choice-based questions.
    - **Similarity Sort Method**: Developed a method to rank and select the most relevant survey questions to enhance model accuracy and context relevancy during both training and user interaction stages.
    - **Award and Recognition**: Project was awarded the Cloud Computing Application Award by UC Berkeley Data Science Discovery Program, recognizing its significant application value among over 100 projects.

Competition and Program Experience

- **Parallel Programming Practice, HUST-USYD Summer School (Summer 2022)**: Gained experience in parallel computing, using OpenMP and MPI.
- **Ancient Glassware Classification & Analysis, China Undergraduate Mathematical Contest in Modeling (September 2022)**: Led a team in utilizing logistic regression and K-Means for classification.
- **Mathematical Analysis for The New York Times' Wordle Game, Mathematical Contest in Modeling (February 2023)**: Developed prediction models using ETS and BP Neural Network.

Honors & Awards

- **GPT Insight Generator for Survey Data,UCB data science discovery program(May 2024)**: Cloud Computing Application Award
- **College Student Mathematics Competition, Hubei Division (Mar 2023)**: Second Prize
- **Chinese Mathematics Competition (Jan 2023)**: Second Prize
- **China Undergraduate Mathematical Contest in Modeling, Hubei Division (Sep 2022)**: Third Prize