Ziyu Xu

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Education

Shanghai Jiao Tong University, BS in Electrical and Computer Engineering — Sep. 2022 - Jun. 2026
- GPA: 3.63/4.0

University of Michigan, BS in Mechanical Engineering, Minor in CS — Sep. 2022- Aug. 2026
- GPA: 3.81/4.0

Experience

Quantitative Analyst Intern, Treasure-Solution, NY — Dec. 2024 - Mar. 2025
- Field: Quantitative Research, Quantitative Development, Machine learning,
- Design a statistical model integrated with machine learning and automotive factor-digging algorithm to predict and simulate the price behavior in the stock market both in short-term patterns and long-term trends. Integrate the model with a self-built trade framework and the firm's risk assessment framework, enabling adjustments to parameters based on real-time forecasts.
- Used Python and C++ to build the model, machine learning algorithms, and framework. During back-testing, the model achieves 10.3% annual profit, with 5% return rate.

Data Science Engineer Intern, Library of Shanghai Jiao Tong University, China — Sep. 2023 – May. 2024
- Field: Data Science, Software Designing
- Lead a team of 4 members to study and analysis academic data (Publications in Web of Science), using Python and JAVA to build a dataset with platform for all researchers in Shanghai Jiao Tong University. Communicate with directors, WOS, and teammates, arranging tasks and resources to help them work efficiently.
- Providing service for 4000 researchers in SJTU already. Website is connected to SJTU official website.

Research

Robotic Exploration Algorithm Optimization, University of Michigan, Ann Arbor — Sep. 2024 - Now
- Field: Algorithms, Machine learning, LLM and SLAM
- Design and optimize algorithms for multiple drones to collaborate, communicate and discover routes. Focusing on integrating commands from controller and internal algorithms (which include machine learning and LLM to design roads) for drones to get better exploration of unknown area and using SLAM for localization.

Surgical Computer Vision Detection, Shanghai Jiao Tong University, China — Apr. 2024 - Dec. 2024
- Field: Deep Learning, Computer Vision
- Apply deep learning into medical field to find bleeding point and potential damage using surgical videos. Address the challenge of improving surgical precision through creating new algorithms
- Co-author of a nature communication paper which has been published.

Publications and Rewards

- Co-author of paper "Is Segment Anything Model 2 All You Need for Surgery Video Segmentation? A Systematic Evaluation" on Nature Communications, NCOMMS-25-20862
- Gold Medal in The 2023 University Physics Competition (top 2%)
- Engaged in a research and learning program on Natural Language Processing (NLP) at Stanford University.
- M Prize in The Mathematical Contest in Modeling 2024 (top 13%)
- Third place in Robot Competition in Shanghai Jiao Tong University (top 8%)

Technologies

Skills: Have knowledge and experience in quantitative, statistical, data science and michine learning field

Languages: C++, Matlab, Python, Verilog, MYSQL, JAVA