Hongyu Li

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EDUCATION

Columbia University   New York, NY
M.S. in Computer Science - Machine Learning   Dec 2025
University of North Carolina at Chapel Hill   Chapel Hill, NC
B.S. in Computer Science, double major in Environmental Sciences - Energy Management   May 2021

LANGUAGE AND IT SKILLS

Technical Languages: Python, Java, C#, SQL, JavaScript, HTML/CSS, C, C++, Clojure, MATLAB
Technologies: Git, Jira, Pandas, FastAPI, Flask, Spring, Maven, Node, React, MongoDB, MySQL, Docker, Azure

PROFESSIONAL EXPERIENCE

Credit Suisse   New York, NY
Software Engineer – Flow and Light Exotics   Sep 2022 - Jun 2024
- Optimized distributed trading systems for flow products and mortgage loan products through development, deployment, documentation, and collaboration with team members and stakeholders using Java, C#, and SQL
- Developed a Java micro-service for order regulatory checks, to increase system reliability, scalability and user experience by decreasing latency, decreasing failure rate by 10% and checking time by 80%
- Led server migration for trading applications, resulting in an estimated 200k annul savings through reduced downtime and maintenance cost, enhanced stability, performance and energy efficiency
- Established Azure pipelines to automate resource creation in Azure and reduced manual effort by 90%
- Collaborated with team in Agile workflow in 2-week sprints, with daily standups, sprint planning, review and retrospective meetings

Software Engineer – Platform and Container as a Service   Jul 2021 - Aug 2022
- Constructed an upskilling gamification platform for employees; designed content and architecture of the platform; built backend, frontend, and databases in Python, React and MongoDB
- Automated data management process with Python and Pandas scripts, through process design, data normalization and implementation, of over 80,000 entries, thereby saving manual efforts by 80%
- Performed analytics on processed data to ensure data quality improvement and server functionality

DataTrails   Remote
Software Engineer Intern   Jan 2021 - May 2021
- Improved code quality with Pylint, Pep8, and DocStrings and created APIs for new use cases of the platform
- Created Github CI/CD pipeline with Azure as host; published the app to Pypi for public use

Credit Suisse   Raleigh, NC
Technology Analyst Intern   Jun 2020 - Aug 2020
- Devised time-series forecasting models (AR, SARIMA) with historical financial product trading-volume data using Python, Statsmodel, and SQL to predict future trading volume
- Constructed a web application to visualize developed models to detect trading volume anomalies with Plotly, Dash, HTML/CSS, helping the bank avoid misreporting

RESEARCH/PROJECTS

Department of Computer Science – Columbia University   New York, NY
AI Research Assistant   Jul 2024 - Present
- Conduct research on RAG models to identity common question types prone to incorrect answers
- Evaluate various large language models (LLMs) on question/answer/context metrics and implement different strategies for question/answer generation accuracy
- Develop web-based demos to present research results with Next.js

Department of Computer Science – UNC   Chapel Hill, NC
ML Research Assistant   May 2020 - May 2021
- Created an NLP program detecting sarcasm in languages and improved accuracy by 10% through machine learning model developing cycle using Python, Pytorch and NLP models
- Built a question answering trivia web application to collect question-answer datasets using Node.js, Express, MongoDB, HTML/CSS