

Jerry Hou

Canadian Citizen | +1 647-471-1297 | jy3hou@uwaterloo.ca | [Linkedin](#) | Native English & Mandarin Speaker

EDUCATION

University of Waterloo – Bachelor of Mathematics

Expected May 2025

Major in Statistics & Combinatorics and Optimization, Minor in Computer Science – GPA: 3.6 Waterloo, Ontario

Coursework: Probability, Linear Models, Stochastic Processes, Data Analysis, Micro, Macro, OR Models, Corporate Finance, Investment Science, Data Structures & Algorithms, Object Oriented Programming, Operating Systems

EXPERIENCE

First National Financial LP

May 2024 – Present

Software Engineer Intern | .NET, C#, Azure MLOps Toronto, Ontario

- Automated information extraction and database updates for over **5,000** monthly insurance filings using Azure Document Intelligence and **C#**, leading to significant improvements in data processing efficiency and bandwidth
- Designed and implemented workflows and data pipelines to help automate model training, versioning, and deployment with **Azure MLOps**, delivering faster iteration time and efficiency for future development
- Produced and maintained a RAG system using OpenAI services and prompt engineering techniques to facilitate AI document reviews, achieving **99+**% accuracy in content extraction

Groq

May 2022 – Aug 2022

Software Engineer Intern | Python, C++ Mountain View, California

- Developed Groq API features including memory usage visualization, power controls, and improved input auditing using **Python**, enhancing the development experience and reliability with Groq API
- Implemented a resource mapping recommendation service using **Python** based on the type of workload, allowing users to get the most performance without having to understand technical details
- Introduced an error tracing feature using stacks and queues, enhanced error diagnostics with color coded alerts and actionable fixes for **20+** error types, improving debugging experience

Huawei

Jan 2022 – Apr 2022

Software Engineer Intern | C++, Java, SQL Toronto, Ontario

- Enhanced data type support and improved SQL operation performance in the openLooKeng data engine using **Java**, focusing on integer resizing and character encoding conversion optimizations
- Created a full coverage unit test suite with **JUnit**, including performance tracking and automated reporting using SSRS Report Builder
- Expanded the number of optimized SQL operations by introducing new parsing and binding modules using **C++**, incorporating LLVM and code generation techniques, reducing query failures and response time

PROJECTS & ACTIVITIES

TradingBelt - Financial Market Insight Tool

Fall 2023 – Present

- Developed a webapp with a microservice architecture using React and Python, helping users browse and construct stock portfolios, visualize option chain histogram and option strategy potential payoff
- Implemented mean-variance portfolio optimization method to provide dynamically updated portfolio weightings
- Developed a trading algorithm driven by option skew and hedging exposure, tested to outperform benchmark ytd
- Integrated financial modeling tools for quick security analysis, including DCF calculator and option pricing models utilizing Black-Scholes and risk neutral methods

Equity Research Analyst - CityU Hong Kong Student Research & Investment

Winter 2023

- Responsible for compiling market research notes, summarized weekly market events, potential catalysts ahead, and changes in market sentiment
- Coordinated and led a team of 4 analysts to prepare and pitch a investment slide deck with an overweight rating for \$PDD, securing first place in an internal pitch competition and publishing findings in our end-of-semester report

TECHNICAL SKILLS

Technical Skills: Python, C++, Java, C#, SQL, R, pandas, Tensorflow

Technology & Tools: MS Excel, MS PowerPoint, MS Power BI, Tableau, CaptialIQ

Activities & Certificates: Events Coordinator @ UW Finance Association, SOA Exam P, Akuna Capital Options 201

Skills: object-oriented programming, automation scripting, unit testing, data exploration & wriggling, data visualization, machine learning workflow, quantitative reasoning