Wyett "Huaye" Zeng

w33zeng@uwaterloo.ca | 519-729-8107 | wyett-zeng.com | LinkedIn | GitHub

Skills

- Languages: Java, Python, C++, C, C#, Go, SQL, Bash, JavaScript, HTML/CSS
- Tools: gRPC, Protobuf, GraphQL, Clickhouse, PostgreSQL, REST API, Slurm, Argo, Postman, Git, SVN, Jenkins, Tableau, Android Studio, React, Hugging Face, Pytorch, Protobuf, Scikit-Learn, Keras, Pandas, NumPy, Seaborn

Education

University of Waterloo & Wilfrid Laurier University Sep 2020 – Aug 2025

Bachelor of Computer Science and Business Administration (Major Average 94.8 / 100)

Experiences

Quantitative Developer | Boosted.ai Jan 2024 – Apr 2024

- Rewrite the factor model algorithm which reduces 10,000+ customer models' daily inference time by over **90%**. The algorithm uses **numpy, Clickhouse, and PostgreSQL** to efficiently compute economic factor values for **every publicly listed security and ETF** each day.
- Developed the investment style matching feature facing 1000+ institutional clients using **Python, gRPC, and protobuf**. The feature analyzes client's portfolios and reports the fitness of their selected investment style.
- Added features in the **Boosted.ai trading algorithm** to optimize daily stock selection for all the company's clients. The added features expand the algorithm's capabilities to construct portfolios that align closer with the client's needs.
- Developed the **AI commentary features** facing 1000+ institutional clients which use the power of **large language models (LLMs)** to **create textual analysis** on the clients' portfolios against various macro topics.

LLM Researcher | University of Waterloo Sep 2023 – Aug 2024

- Supervised by Professor Chen Wenhu & PhD Candidate Jiang Dongfu, I **led the thesis paper** on applying direct preference optimization (DPO) techniques to create a new reward model for code generation tasks.
- Utilized 50+ pre-trained LLMs to make inferences on 10+ datasets using tools such as **Huggingface Transformers** and **vLLM**. Then create a new reward model based on the **Pairwise Reward Model** architecture.

Data Scientist | CIBC – Gallant MacDonald Jan 2023 – Apr 2023

- Developed the client report generation program which reduces a monthly **25-hour manual task** into a **6-hour automated task**. The program is built using **PyQt5** and makes **RESTful API calls** to retrieve data from various external partners.
- Developed the market analysis report program that presents hundreds of market trend graphs to team members in less than 3 minutes. The algorithm is created with **Morningstar API**, **pandas,** and **Seaborn.**
- Developed the **quantitative portfolio builder**, which can construct a portfolio whose return is within **±2.8% of the desired return** using **QSolver** to provide insight into the more "obscure" alternative investment hedge funds.

Software Engineer | Siemens Healthineers Jan 2022 – Apr 2022

- Developed and maintained the Android program NXS for Epoc Blood Analysis System's host-4 device using **Android Studio** and **Java**. Since NXS is the OS of a medical device and patient safety is on the line, **correctness** is the utmost priority, and code changes go through rigorous review and testing.
- Fixed the Glucose conversion issue and improved its performance by 70%. This issue arose from incorrect **asynchronous saving logic** with **Realm database** and **Reactive Java**.

Project

Voyage

- Currently developing a website and mobile apps that leverage **GPT** or other **LLM models'** capabilities to create customized travel itinerary plans.
- The project contains 3 major components: the frontend interface created with **React** that receives user input and makes **RESTful API** calls to our backend server; a backend server built with **Go** that receives and handles incoming API calls and manages user accounts with **NoSQL database**; and an NLP component for itinerary generation and refinement.