

Wyett “Huaye” Zeng

w33zeng@uwaterloo.ca | 519-729-8107 | wyett-zeng.com | [LinkedIn](#) | [GitHub](#)

Education

University of Waterloo & Wilfrid Laurier University

Bachelor of Computer Science and Business Administration (Major Average 94.8 / 100)
Artificial Intelligence Specialization + Finance Concentration

Waterloo, Canada

Sep 2020 – Aug 2025

Experiences

Quantitative Developer | Boosted.ai

Jan 2024 – Apr 2024

- Rewrite the factor model algorithm which reduces 5,000+ customer models' scheduled inference time by over **90%**, with **weekly 500+ hours** less computation time on **AWS EC2**. The algorithm uses **numpy**, **Clickhouse**, and **PostgreSQL** to efficiently compute economic factor values for **every publicly listed security and ETF** (20,000+ securities) 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** with **GraphQL** 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

- **Leading a thesis paper** on applying direct preference optimization (DPO) to create a new reward model for code generation tasks.
- Created a new reward model by **fine-tuning** the pairwise reward model architecture with **DeepSpeed** and **LoRA** on a newly curated preference dataset with 250,000+ entries for intent alignment.
- Utilized 50+ pre-trained LLMs to make inferences on 10+ datasets using **Huggingface Transformers** and **vLLM**.
- Partook in the **MFuyu** project, where we explored LLMs' ability to reason about multiple images. Created a **new multi-image benchmark dataset** from over 17 existing datasets. Then fine-tuned the **Fuyu** model to create a custom model capable of complex reasoning over multiple images.

LLM Researcher | Wilfrid Laurier University

Sep 2023 – Aug 2024

- **Leading a thesis paper** on applying LLMs to market sentiment predictions on market news. In contrast to previous research, this paper will take a deeper dive into the technical aspects of LLMs in hopes of improving accuracy against even the highest-performing general-purpose model such as ChatGPT4.
- Created a new dataset based on **Dow Jones News Wires** and **Wharton Research Data Service** with 120,000+ entries. Then finetuned existing LLMs such as **Bert**, **Mistral**, and **Llama** using **Huggingface Transformers**, **DeepSpeed**, and **LoRA**.

Data Scientist | CIBC – Gallant MacDonald

Jan 2023 – Apr 2023

- 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.
- Developed the market analysis report 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**.

Software Engineer | Siemens Healthineers

Jan 2022 – Apr 2022

- Developed and maintained the Android program NXS for Epop Blood Analysis System's host-4 device using **Android Studio** and **Java**.
- 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**.

Skills

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