

Hany Jiang

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Education

University of Waterloo, Data Science

Sep 2024 – Dec 2028

- **Relevant Coursework:** Designing Functional Programs, Elementary Algorithm Design and Data Abstraction, Object-Oriented Software Development, Foundations of Sequential Programs

Work Experience

Data Analyst – Christ City Ministry

Sep 2025 – Dec 2025

- Cleaned and standardized 10+ Ontario demographic datasets from secondary research and public sources, producing analysis-ready tables to benchmark regional population trends across 15 municipalities.
- Built an interactive **Power BI** dashboard with a relational data model and custom DAX measures, enabling stakeholders to explore community needs, attendance trends, and participation rates with drill-down filtering.
- Delivered a data-driven final report with actionable recommendations and a prioritized action plan, directly informing outreach strategy for the Woodstock region.

Projects & Research

Multitask Learning for Cross-Asset Price Prediction – Directed Researching Program

GitHub

- Built an end-to-end **Python** time-series pipeline covering data ingestion, missing-value imputation, rolling-window feature engineering, and multi-asset visualization using Pandas, NumPy, and Matplotlib.
- Designed and trained a multitask **PyTorch** model to jointly forecast closing prices across 5 asset classes, sharing representations via a hard-parameter-sharing architecture and benchmarking against single-task baselines.

NASA Space Apps Hackathon: SPIKE — AI Research Dashboard

GitHub / NASA Space Apps

- Architected a full-stack research platform using **React**, **Next.js**, and **Flask**, enabling rapid querying of 600+ NASA bioscience publications.
- Implemented an automated ETL pipeline using Python and the OpenAI API with strict **JSON Schema** validation to sanitize unstructured text into type-safe, queryable datasets.
- Designed a responsive frontend interface with **Material UI**

TickerMate — Discord Market Intelligence Bot

GitHub

- Built a low-latency trading assistant in **Python** (discord.py) with a unified abstraction layer to normalize asynchronous data streams from **Polygon** and **yfinance** into a consistent API interface.
- Implemented an autonomous agent system using **OpenAI Structured Outputs**, producing deterministic JSON payloads for real-time algorithmic trend analysis and trading signals.

TrueCost — Personal Finance Mobile App

GitHub

- Architected an offline-first mobile application using **React Native** and **Expo**, leveraging **Drizzle ORM** and **SQLite** for zero-latency local data persistence across 5+ financial modules.
- Developed a financial simulation engine in **TypeScript**, implementing compound-interest modeling, loan amortization schedules, and variable-rate projections.
- Built an interactive expense calendar and “Time-Cost” valuation tool with **date-fns**, enabling users to visualize daily and monthly spending patterns and identify high-spend periods.

Technical Skills

- **Languages:** C/C++, Python, TypeScript/JavaScript, R, SQL, Bash
- **Backend & Infra:** Flask, Node.js, Docker, REST APIs, WebSockets, Git, Linux, Makefile
- **Frontend:** React, React Native, Next.js, Material UI, Expo
- **Data/ML:** Pandas, NumPy, Matplotlib, PyTorch, Power BI, Excel