

Jai Vaderaa

548-333-0560 | jvaderaa@uwaterloo.ca | LinkedIn | GitHub

Technical Skills

Languages: C/C++, JavaScript, Python, R, HTML, CSS, PostgreSQL

Frameworks: React, Node.js, Flask, Express.js, RESTful API

Tools: Pandas, TensorFlow, NumPy, Scikit-learn, Docker, Linux, Git

Skills: Object Oriented Programming, Machine Learning, Statistical Modelling, LLMs, Generative AI, API Integration

Experience

Business Systems Analyst

Sep. 2023 – Dec. 2023

Hamblin Watsa Investment Council (A Fairfax Company)

Toronto, ON

- Developed a **data clustering algorithm** to optimize Compliance Data Management using python
- Built a data pipeline using an **ETL** process to transfer data from XML files into an SQL database
- Assisted in the review and documentation of **API functionalities** used for compliance testing procedures
- Executed ORE (Open Source Risk Engine) simulations to derive various sensitivities for trades
- Gained experience across all aspects of investment operations (front, middle and back-office)

Mathematics Tutor

Sep. 2020 – Apr. 2021

Udayan Care

Gurugram, India

- Volunteered as a mathematics instructor for underserved high school students, focusing on algebra and calculus
- Provided personalized mentoring to 15+ students, helping 80% of them improve their grades by at least one letter grade
- Created and implemented an adaptive curriculum to accommodate diverse learning styles and backgrounds
- Collaborated with other volunteers to organize weekend workshops and exam preparation sessions

Projects

University Class Scheduler

Dec. 2024 – Feb. 2025

- Developed a web application that automates university class scheduling using **web scraping** and **Generative AI**
- Engineered a data collection pipeline using **Beautiful Soup** to extract course information from university systems
- Implemented **Flask** backend to handle user requests and manage application logic
- Integrated generative AI model to analyze course data and generate optimized class schedules based on user preferences

Stock Market Simulator

Oct. 2024 – Jan. 2025

- Built a full-stack web application using **React**, **Node.js**, **Express.js**, and **PostgreSQL** for stock trading and portfolio management
- Created real-time stock performance tracking using APIs and implemented buy/sell functionality
- Reduced API call frequency by **50%** through caching and consolidating requests, optimizing performance within free API limits.
- Ensured responsive design and cross-browser compatibility with Material-UI

Education

University of Waterloo

Waterloo, ON

Bachelor of Mathematics in Statistics, minor in Combinatorics and Optimization

Jan. 2023 – Sep. 2027

Awards

- CBSE Certificate of Merit, 2020 (Awarded to the top 0.1% students in the board)
- 1st rank in school for International Mathematics Olympiad, 2021
- University of Waterloo President's Scholarship of Distinction