

Tahseen Rayhan

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EDUCATION

University of Waterloo, Wilfrid Laurier University

Waterloo, ON

Bachelor of Computer Science, Bachelor of Business Administration, Double Degree

Sep 2024 – Apr 2029

EXPERIENCE

Software Engineering Intern

Jun 2025 - Present

Philer AI - LegalTech Startup

Toronto, ON

- Optimized Flask backend by engineering **4 REST API endpoints** with caching layers to cut redundant requests, **halving query times**, and reliably handling CRUD operations for **125 active client transactions**
- Integrated an **Airtable database** to process clients' **real-time transaction progress** across **6000+ unique records** and **3 transaction states**, across closing progress data, uploaded documents, and scheduled meetings
- Improved time and cost efficiency** by providing clients access to **real-time** closing updates, while **reducing turnaround times** from **days to minutes**, eliminating the need for frequent phone calls or progress check-ins

Machine Learning Engineer

May 2025 - Aug 2025

Wat Street - Quantitative Finance Design Team

Waterloo, ON

- Trained a Random-Forest model** on **3 years** of data for **10** financial stocks (**7000+ data points**), achieving **59% accuracy** on **3-day price predictions**, outperforming baseline models by **9%** after feature engineering
- Fine-tuned hyperparameters** and implemented **technical indicators** like Volume-Weighted Average Price (VWAP) and Average True Range (ATR) using Pandas and Python **improving accuracy and precision by 6%**
- Researched an NLP-based sentiment analysis pipeline** using transformers and logistic regression to score market sentiment on stocks mentioned in financial articles, generating actionable buy/sell/hold trading signals

Software Developer

Nov 2023 – Jul 2024

Tapi Co - Student-run Digital-Marketing Agency

Toronto, ON

- Spearheaded the development of a web application for a digital marketing agency in the bubble tea industry, **boosting businesses' digital footprint**, onboarding **100+** users and **3 businesses** in a few weeks of operations
- Orchestrated the production of **3+ core application features** such as point-tracking systems, live location, and map navigation using Javascript, React, Node.js, and Firebase, **reducing server costs** using serverless functions
- Led the development team to achieve **Best Technology Company in Canada** across **14 national charters**

PROJECTS

🔗 Autonomous Robot Simulation with A* Path-finding | C++, Linux, ROS2, Docker

- Developed a **continuous A* planner** finding the optimal path in an obstacle-dense map, achieving a **98% success rate** with **0 collisions**, using continuous pathfinding algorithms responding to environment dynamics
- Built a **probabilistic cost-map** to **predict obstacle density**, improving path-finding accuracy, path smoothness, and planning efficiency, while relaying data to map-processing nodes via **Docker containers** for robot navigation

🔗 Real-Time Paper-Trading Platform | MERN, JavaScript, Alpha Vantage

- Developed a lightweight platform allowing users to **simulate stock trading**, executing up to **30+** buy/sell orders every minute, and introducing data-driven "bad trade" safeguards to help users **improve financial literacy**
- Integrated Alpha Vantage API with MongoDB, Express.js, React.js and Node.js for displaying **real-time, consistent stock data**, and a competitive leagues system to track portfolio earnings across **5+** private groups

🔗 Portfolio Website (tahseenr.com) | React, Next.js, Typescript, TailwindCSS

- Built a responsive website using **Next.js** and **Typescript** showcasing experiences and skills in Software/Business
- Deployed** on Vercel with **CI/CD** via Github Actions, and Cloudflare for secure and reliable **DNS management**

TECHNICAL SKILLS

- Languages:** C, C++, Python, HTML, CSS, JavaScript, Typescript, SQL
- Frameworks/Libraries:** React, Next.js, Express.js, Node.js, Flask, Pandas, OpenCV, NumPy, Mediapipe, ROS2
- Developer Tools:** Git, Bash, Linux, Docker, Firebase, MongoDB, Airtable, Cloudflare, Vercel, Jira, PowerBI