

# Tahseen Rayhan

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## EDUCATION

### University of Waterloo

Bachelor of Computer Science

Sep 2024 – Apr 2029

Waterloo, Ontario

### Wilfrid Laurier University

Bachelor of Business Administration

Sep 2024 – Apr 2029

Waterloo, Ontario

## EXPERIENCE

### Software Engineer Intern

Jul 2025 - Aug 2025

Philer AI

Toronto, Ontario

- Built a real-estate dashboard managing **130+** real-time closings with **TypeScript, Nextjs, React, FastAPI**
- Engineered **REST** APIs with **Redis** caching to cut redundant queries and accelerating backend response times
- Integrated **Airtable** to sync **6000+** user transactions, info, and progress, delivering instant client updates
- Deployed the dashboard to **AWS** while using **CI/CD** and unit testing to ensure scalable, reliable production use
- Cut client transaction update times from **2 days** to **5 minutes** by delivering real-time visibility and instant alerts

### Machine Learning Engineer

May 2025 - Aug 2025

Wat Street

Waterloo, Ontario

- Implemented a **Random Forest** machine learning model, predicting stock price trends across **7000+** data points
- Achieved a **59%** prediction accuracy on **3-day** prices, outperforming benchmarks by **9%** after feature engineering
- Fine-tuned hyperparameters and added technical indicators with **Python/Pandas**, boosting accuracy by **6%**
- Automated data ingestion by building a pipeline to fetch, process, and clean stock data for model training
- Developed an **NLP** sentiment-analysis pipeline with transformers and logistic regression to improve trade accuracy

### Software Engineer

Sep 2024 – May 2025

WATonomous

Waterloo, Ontario

- Developed humanoid perception modules in **Python/C++** for autonomous navigation, enabling robotic functions
- Implemented Intel RealSense **ROS2** package into our stack, enabling depth-camera data flow into control nodes
- Built a **LIDAR**-based object-location algorithm; improved perception accuracy by **15%** for autonomous detection
- Containerized computer vision modules with **Docker** to streamline deployment across **5+** nodes for consistency

## PROJECTS

### Tapi Co – Best Canadian Tech Company | *JavaScript, React, Node.js, Firebase*

- Built a mobile-friendly web application for a marketing agency, onboarding **100+** bubble-tea businesses in **1 week**
- Co-orchestrated the production of **3+** core application features, a point-tracking system, live-location, and map navigation using **Javascript, React, Node.js, and Firebase**, reducing server costs using serverless functions

### Canadian Policy Rate Predictor | *XGBoost, Sci-kit Learn, Pandas, NumPy, Python*

- Achieved **81%** prediction accuracy on Canadian policy interest rate changes by developing an ensemble system using **ARIMA, XGBoost** and **Linear Regression**, effectively predicting the next three monetary policy changes
- Optimized data pipelines using **Pandas** and **NumPy** to preprocess BOC datasets, transforming monetary forecasts into variable or fixed-rate mortgage decision insights, and supported rate-hike risk mitigation planning

### 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

## TECHNICAL SKILLS

- Languages:** C, C++, Python, Bash, HTML, CSS, JavaScript, Typescript, SQL
- Frameworks/Libraries:** React, Next.js, Node.js, FastAPI, Pandas, OpenCV, NumPy, Tensorflow, CI/CD
- Developer Tools:** Docker, Git, Github, Linux, Google Cloud Platforms (GCP), Airtable, MongoDB, Vercel