

# FARZAN AHMED BHUIYAN

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**Languages:** C/C++, Python, Java, JavaScript, Bash  
**Data:** SQL, MongoDB, MariaDB, Kafka, BigQuery

**Frameworks:** React, Vue.js, node.js, Flask, Django, Spring, TensorFlow  
**Tools:** Git, Docker, Kubernetes, Linux, GCP, AWS, Azure, Jenkins

## EXPERIENCE

### Rodan Energy

Software Engineer Intern · Energy Markets Team

Sept 2023 – Dec 2023  
Mississauga, ON

- Leading the migration of a frontend from Vue 2 to Vue 3, migrating **200+ components** and **50k+ lines** of code.
- Successfully restructured the existing CI/CD pipeline on **Azure DevOps** into distinct build and release phases.
- Investigating hourly energy consumption forecasting in Ontario with **(S)ARIMA(X)**, **FB Prophet**, and **XGBoost** models.

### NCR

Software Engineer Intern · CSPF Backend Team

Jan 2023 – Apr 2023  
Waterloo, ON

- Built backend APIs on **Java Spring** microservices facilitating ATM transactions for banks with **~2 million** clients.
- Engineered endpoints with Toolkit – a **Java/Maven** project to build API endpoints with **swagger/OpenAPI** specs.
- Scaled microservices to handle **162% increase in traffic** with **Kafka** and **Kubernetes**; verified by **JMeter** load tests.
- Designed comprehensive, automated **E2E** and **JUnit** tests using **Java Spring Framework** with **~85%** code coverage.

### WATonomous

Software Developer · Radar Team

Sept 2022 – Dec 2022  
Waterloo, ON

- Improved classification accuracy from **84% to 92%** by implementing a new radar point cloud algorithm from an [IEEE research paper](#) in **OpenCV** and **C++** on an existing **ROS driver** for radar sensors.
- Achieved a **9% increase in object detection accuracy** by adjusting radar points based on vehicle velocity estimation.

### Questrade

Full Stack Engineer Intern · Core Systems/Data Platform Team

May 2022 – Aug 2022  
Toronto, ON

- Designed a FIX protocol engine in **Python** for algorithmic trading with a mean latency of **215µs** and p95 of **232µs**.
- Built ETL pipeline with **Dataflow** and **Apache Beam** to load **200k+ rows** of market data daily into a **MySQL** server.
- Orchestrated workflows with **Apache Airflow** and used **Datadog** to measure a **20% reduction in processing times**.
- Wrote stored procedures in **SQL** to rid **90%** of repeated queries, rewrote queries for **x1.8 reduced response times**.

### MyPalate Inc.

Software Developer Intern · Full Stack Team

Aug 2020 – Nov 2020  
Toronto, ON

- Beta launched a recipe sharing web application to **120+ global users** built using **React**, **node.js**, and **PostgreSQL**.
- Built a recipe recommender API with **Flask**, **NLTK** and **scikit-learn**, scraping **180k+ recipes** to increase user retention.
- Integrated the API with **node.js** backend, deployed system to **AWS EC2** to horizontally scale for over **200 users**.
- Used **Redux** for state management and wrote middleware to handle duplicate requests, **halving the total API calls**.

## PROJECTS

(MORE HERE)

**Fluxus (HackMIT 1<sup>st</sup> Prize)** · LLM powered medical data workspace    Flask, OpenAI, Vue.js, RabbitMQ, InterSystems  
**PushupAI** · Gives feedback on pushups using a CNN with **~88%** accuracy    React, Flask, TensorFlow, OpenCV  
**Watopoly** · Developed a command-line game variant of Monopoly using OOP principles and MVC patterns    C++  
**WLP4 Compiler** · Wrote a compiler for a subset of C (Placed **10<sup>th</sup>/291** students for most optimized compiler)    C++

## EDUCATION

University of Waterloo, Bachelor of Computer Science, Honours

Sept 2021 – Apr 2025

- 3x Term Distinction, Double minor in Combinatorics/Optimization and Computational Math
- Awards:** HackMIT - 1<sup>st</sup> Place in Health Track and 1<sup>st</sup> Place InterSystems Sponsor Challenge (**\$2000 USD**), DocuSign Good Code Hackathon 2<sup>nd</sup> Place (**\$5000 USD**), Canadian Senior Math Contest 95<sup>th</sup> percentile
- Interests:** Basketball, Soccer, any sport involving a ball, Cycling, Formula 1, Gym, Hip Hop, Anime