

# FARZAN BHUIYAN

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## SKILLS

**Languages:** C++, C, Python, Java, Javascript, Bash  
**Data:** SQL, MongoDB, Redis, Kafka, Airflow, Firebase

**Frameworks:** React, Vue.js, node.js, Django, Flask, Spring, TensorFlow  
**DevOps:** Git, Docker, Kubernetes, ROS2, Linux, Jenkins, AWS, GCP

## EXPERIENCE

### Rodan Energy Solutions

Sept 2023 - Dec 2023

*Software Engineer Intern - Energy Markets*

*Mississauga, ON*

- Built an end-to-end ML platform to train data on a set of ML models (regression forest, gradient boost, XGBoost, RNN and SARIMAX) and pull the most accurate forecasts that were used to save clients **2M+ in energy costs**.
- Replaced an entire component library of **200+ components**, moved **25K+ lines** from **JavaScript** to **TypeScript** and migrated vue-cli to Vite; removed **154 vulnerabilities**, cut build times by **62%**, launched dev server **135x faster**.
- Introduced **live data changes** to the app by replacing short-polling with websockets integrating **Django Channels** and **Redis**.

### NCR Corporation

Jan 2023 – Apr 2023

*Software Engineer Intern - Teller Systems Backend*

*Waterloo, ON*

- Built backend APIs for ATM transactions servicing over **20 million** bank users using **Java Spring** and **JPA/Hibernate**.
- Leveraged a **Java/Maven** internal tool to build and debug REST API endpoints with **swagger/OpenAPI** specifications.
- Scaled a new microservice with **Kubernetes** and **Kafka** to handle a **162%** increase in traffic; verified by load testing.
- Designed comprehensive, automated E2E and **JUnit** tests using **Java Spring Framework** with over **85%** code coverage.

### Questrade Financial Group

May 2022 – Aug 2022

*Full Stack Engineer Intern - Core Systems/Data Platform*

*Toronto, ON*

- Built ETL pipeline with **Dataflow** and **Apache Beam** to load **200K+ rows** of market data daily into a **MySQL** cloud server.
- Orchestrated workflows with **Apache Airflow** and used **Datadog** to measure a **20% reduction in processing times**.
- Designed a FIX protocol engine in **Python** for algorithmic trading; achieved a mean latency of **967µs** and p95 of **1ms**.

### WATonomous

Sept 2022 – Dec 2022

*Software Developer - Radar Software*

*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 **ROS2** driver for radar sensors.
- Achieved a **9% increase in object detection accuracy** by adjusting radar points based on vehicle velocity estimation.

### MyPalate Inc.

Aug 2020 – Dec 2020

*Software Developer Intern*

*Toronto, ON*

- Beta launched a recipe sharing web application to **120+** global users built using **React**, **node.js/Express** and **PostgreSQL**.
- Built a recipe recommender API with **Flask**, **NLTK** and **scikit-learn**, scraping **180k+ recipes** to increase user retention.
- Integrated the API with a **node.js** backend, deployed to **AWS EC2** instance to horizontally scale the app for over **200** users.

## PROJECTS

**Fluxus** - Healthcare data platform to query and modify EHRs as easily as possible – **HackMIT \$2000USD Prize Winner**

**PushupAI** - React web app that detects push-ups and gives live feedback using OpenCV and a CNN with **88% accuracy**

**Compiler** - Compiler written in C++ for a minified C language (Placed **10th/291 students** for most optimized compiler)

**Watopoly** - Command-line game variant of Monopoly in C++ using object-oriented programming and MVC patterns

## EDUCATION

### University of Waterloo

Waterloo, ON

*Bachelor of Computer Science, Honours*

*Sept 2021 – Apr 2026*

3.60/4.0 cumulative GPA, 3x Term Distinction, Minor in Combinatorics & Optimization

**Awards:** HackMIT 1st Prize in Healthcare Track (**\$2000+ USD** in prizes), DocuSign Good Code 2nd Place (**\$5000USD** award)

**Interests:** Basketball, Soccer, Cycling, Formula 1, Gym, Hip Hop, Anime, Machine Learning, Distributed Systems