

Valerie Fernandes

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EDUCATION

University of Waterloo, Waterloo, ON

Expected Graduation: May 2026

- **Bachelor's of Software Engineering, Minor in Combinatorics and Optimization** - GPA: 87.36%
- **Relevant Coursework:** Data Structures and Algorithms, Operating Systems, Combinatorics, Statistics

EXPERIENCES

Rivian - Software Engineering Intern

(May 2024 - Present)

- Built communication systems to enable vehicle servicing and support, **impacting 50000+ customers**
- Developed a React application allowing technicians to send safety critical SMS alerts via AWS Pinpoint, implemented Flask endpoints to **retrieve real time status** of message campaigns
- Transitioning backend communication services to Go, **improving customer messaging latency by 70%**

Jane Street - Insight Program

(August 2024)

- Career development program; learning how to develop electronic trading systems with OCaml

Waterloo Algebraic Intelligence & Computation Lab - Research Associate (January - May 2024)

- Parsed data into tries and **applied minimization algorithm** to described intersection of causal states
- Developed visualizations of EEG data as finite automata, used by neuroscientists in data analysis

Solace - Cloud Software Developer

(January - April 2023)

- **Architected MVC infra** for API management microservice, adopted by company development teams
- Utilized cloud infrastructure to **develop 12 REST API endpoints** using the Spring Boot framework
- **Improved efficiency by 35%** optimizing Liquibase scripts to define Elasticsearch schema for EventAPI
- Integrated AsyncApi generation library across 7 microservices, enabling simple EDA management

Toronto Transit Commision - Software Developer

(May - August 2022)

- Developed a .NET vehicle monitoring and correction application **deployed on 2000+ TTC vehicles**
- Architected OOP model in C# to replicate daily bus logs, reducing runtime from **8 hours to 40 mins**
- Designed SQL queries for telemetric data, and generated reports used in management decisions

Women In Computer Science - Co Chair

(April 2023 - March 2024)

- Lead committee to mentor and empower a **network of 1600+ women and non-binary students**
- Organized events and facilitated company campus visits to connect women establishing tech careers

PROJECTS

EcoPulse

- Built an idea validator based on individualized metrics to boost investments in the circular economy; presented and won at AIEarthHack hosted by Microsoft and Harvard Business School
- Developed React web-app with a Flask backend, used a fine-tuned GPT4 model for metric generation

Time Turner

- Built React dashboard showing optimally productive schedule, used **Firestore** for auth and data storage
- Collected metrics with a **Raspberry Pi**, employed **OpenCV** to quantify facial drowsiness throughout day

Midnight Sun (Solar Car Design Team) - Strategy Team

(January 2021 - January 2022)

- Employed **NumPy** to create optimization function returning speeds for the most energy efficient race
- Performed regression analysis and visualized car data with **Python**, using **Pandas**, and **Numpy**

SKILLS

Languages - Python, C++, C, SQL, Java, TypeScript, Go, C#

Tools - Spring Boot, AWS, Kubernetes, Flask, Firebase, .NET, NumPy, Pandas, Docker, Postman, Swagger