

AAYUSH SONI

☎ 647-561-4148 ✉ aayush.soni@uwaterloo.ca 🌐 aayush-soni 📄 aayushsoni 🔗 aayushsoni

Education

University Of Waterloo

Sept 2021 – Apr 2026

Bachelor of Applied Sciences in **Mechatronics Engineering**

Waterloo, ON

- **Relevant Courses:** Data Structures and Algorithms, Digital Computation, Linear Algebra, Statics, Circuits
- **Cumulative GPA:** 3.70/4

Technical Skills

Languages: Python, Golang, C, C++, HTML, CSS, JavaScript

Technologies: React, TypeScript, Angular, Flask, Django, PostgreSQL, MongoDB, AWS, Git, Jenkins, Docker

Experience

Software Developer Intern

Sep 2022 – Dec 2022

Ki3 Photonics Technologies

Montreal, Quebec [Remote]

- Developed a web app using **Flask** and **JavaScript** that can accept **1000+ OpenQASM 2.0** strings and generate the resulting quantum circuit with the ability to modify the circuit while hosted, enhancing user accessibility by **45%**.
- Redesigned the company's visualization package to include **Matplotlib** to enable circuit visualizations, circuit comparisons, and circuit-directed acyclic graphs, helping **6+** senior developers reduce debugging times by **65%**.
- Implemented a **Gradient Descent algorithm** that can calculate the gradient in parameter optimization, which outperforms current parameter search algorithms in terms of computing speeds, while increasing test accuracy by **37%**.
- Performed **test-driven development** using **A/B** testing to validate quantum circuits, ensuring **89.2%** code coverage.

Software Engineering Intern

Jan 2022 – Apr 2022

Accipiter Radar Technologies

Niagara, Ontario

- Designed a backend server in **Golang** to POST **10K+** requests daily, fetched data from **Dgraph** using **DQL** and connected Angular to the frontend to display critical data using Material UI requested by **12+ clients**.
- Spearheaded the development of an application to encrypt paystubs with password protection using the **PYPDF2** library, saving the Accounting Department **75+** minutes bi-weekly and increasing team productivity by **10%**.
- Initiated the advancement of creating a new testing framework using **Pytest** and **Selenium** to validate **100+** features of the company's web application, automated by a custom **Jenkins** Multi-branch **continuous integration** pipeline.
- Worked in an Agile environment to decrease app failures by **35%** by fixing **20+** bugs using **Typescript** and **Angular**.

Backend Software Developer

Jan 2022 – Mar 2022

Waterloo Rocketry Team – Design Team

Waterloo, Ontario

- Modified Slackbot using **Node** and **Express** to handle over **200+** meeting requests, reducing no-shows by **20%**.
- Collaborated with a senior developer to create a **GitHub Actions Workflow** to automatically deploy code to an AWS server, reducing the time needed for manual deployments by **80%**.

Projects

Storefront 📄 | Python, Django, JavaScript, PostgreSQL, AWS

- Developed an e-commerce web application with **39+** users and deployed app using **AWS Elastic Beanstalk (EB)**.
- Streamlined the checkout process by integrating **PayPal** as a payment gateway option for the e-commerce website, resulting in an increase in conversion rate by **15%** and accessibility for customers.
- Integrated **2FA** for submitting reviews, a login check and product purchase check, reducing fraudulent reviews by **80%**.
- Revamped a **PostgreSQL** database with **22+** tables to store user information, orders, payments, products, and reviews, improving data retrieval speeds by **30%**.

Expense Tracker 📄 | Node, Express, Postman, MongoDB, React

- Created a **CRUD** app to keep track of the difference between income and expenses, saving users of **2+** hours/month.
- Utilized **MongoDB** to keep track of expenses and tested API Endpoints using **Postman** by sending POST requests.
- Designed UI using React and incorporated **React Hooks** to make code **37%** more efficient and utilized **Express API** to connect the backend and monitor the transactions made by a user.

Personal Blog 📄 | Python, Flask, Bootstrap, PostgreSQL, Heroku

- Launched a **CRUD** blogging app with **65+** users which allows users to gain insight on technological advancements.
- Built back-end with **Flask** and used POST requests to send information from the login form to the server and enabled security measures to protect user information through hashing and salting passwords.

Interests

Computer Vision | Block chain Programming | Ice Hockey | Garba(Indian dance)