

# AAYUSH DAHAL

✉ [aayushd4h4l@gmail.com](mailto:aayushd4h4l@gmail.com)

🌐 [linkedin.com/in/aayushdahal](https://linkedin.com/in/aayushdahal)

🐙 [github.com/aaayyuusshh](https://github.com/aaayyuusshh)

## Education

### University of Calgary

Expected June, 2025

Bachelor of Science in Computer Science, **3.8 GPA**

## Relevant Coursework

- Data Structures
- Object-Oriented Design
- Web-based Systems
- Software Testing
- Algorithms
- Computer Networks
- Distributed Systems
- Computing Machinery

## Experience & Leadership

### Bank of Canada

Sept 2024 – Dec 2024

Software Engineer Intern - Financial Systems

Ottawa, Canada

- Built an accurate analytics component to track per-endpoint traffic across the Bank's website, handling millions of views
- Implemented local and server side caching strategies to reduce server strain and improve page load times by at least 40%
- Integrated a Model-View-Controller component that accurately displays real time currency data on the Bank's website
- Collaborated on database design for the new Retail Payment Supervision service, enabling backend readiness for launch
- Technologies: JavaScript, PHP, MySQL, Laravel, Apache, Git, Jenkins

### Alstom

May 2023 – Aug 2023

Software Engineer Intern - Automotive Systems

Toronto, Canada

- Improved transit daily for 1M+ by refactoring legacy Train Management & Control System to modern React.js frontend
- Developed intuitive interfaces for train subsystem controls like HVAC, engine, brakes etc., enhancing operator efficiency
- Built Python scripts to automate workflow tasks, adopted by 100+ developers across teams, increasing productivity
- Developed 50+ Selenium front-end test scripts, reducing manual testing time and promoting efficient development
- Technologies: React.js, Redux, C++, C#, Tailwind CSS, Selenium, SVN, CANalyzer

### Benevity

May 2022 – Sept 2022

Software Engineer Intern - Web-based Systems

Calgary, Canada

- Collaborated in a scrum team to identify, diagnose, and resolve production bugs and implement quality improvements
- Maintained Benevity's donation API that has handled \$15B+ to date, facilitating secure donation processing
- Optimized SQL database efficiency by 30-50% through refactoring queries and caching expensive query results in Redis
- Implemented JUnit test suites for critical Java back-end code handling payments, achieving 90% average coverage
- Technologies: JavaScript, Java, MySQL, JUnit, Spring Boot, Git, AWS, Docker, Redis, Jenkins, JIRA

### Webform CiviCRM Module

July 2021 – Sept 2021

Open Source Contributor

Remote

- Credited for 8 bug fixes, improving functionality for over 3k active Drupal sites using the module at the time

## Projects

### WikiTime | JavaScript, Jest, Chrome Extension API

- A Chrome extension that accurately estimates the reading time of Wikipedia articles based on user's reading speed
- Optimized parsing logic to deliver accurate estimates across diverse content structures

### Distributed Note Taking Web App, ShareNotes | React.js, Python, Flask, SQLite

- A distributed note taking app, inspired by Google Docs, that allows real time, collaborative note-taking
- Employed multiple replicated servers and load balancers to ensure high availability, scalability, and fault tolerance

### Dots & Boxes Multiplayer Web Game | JavaScript, Node.js, Express.js, MongoDB, Socket.IO

- A multiplayer game that allows players to create game rooms or join existing game rooms through unique join ids
- Built a scalable server that facilitates rooms and low latency game state broadcasting between clients in under 100ms

### Terminal Text Messenger | C++

- A multi-threaded Linux app that allows multiple devices to connect and send synchronized messages via the terminal
- Implemented client-server architecture using TCP sockets for bi-directional, fault-tolerant messaging between devices

## Technical Skills

**Languages:** JavaScript, TypeScript, Java, Python, C, C++, Assembly, SQL, HTML, CSS

**Tools/Frameworks:** React.js, Node.js, Express.js, Spring Boot, AWS, MongoDB, Git, JUnit, Linux, Docker, Jenkins