

# Alexander Bhasin

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## Education

### Carleton University

BS in Computer Science, Honours Cybersecurity Stream, **3.9** GPA (11.43/12.00)

Sept 2018 – April 2023

Ottawa, Ontario

## Experience

### Full Stack & Mobile Developer

#### Daitoku Co.

Jan 2023 – Present

Ottawa, Ontario

- Developed scalable web and mobile applications, through the use of **Svelte**, **Express**, **Swift**, and **Kotlin**
- Tailored headless **CMS** solutions for clients, boosting platform flexibility by **50%** and enhancing project adaptability
- Established **PostgreSQL** and **MongoDB** database solutions to manage and store data across different applications
- Deployed multiple applications to **AWS**, utilizing **S3** buckets and **CloudFront** for optimized cloud-based solutions
- Implemented **CI/CD** pipelines using **GitHub Actions**, automating the deployment process for increased efficiency

### Web Developer Co-op

#### Bank of Canada

Sept 2022 – Dec 2022

Ottawa, Ontario

- Improved functionality on a custom **WordPress** deployment, further enhancing content-based web applications
- Championed the development of new accessibility features, enhancing the general usability of **6+** websites
- Conducted comprehensive accessibility audits with cross-functional teams, in order to meet **WCAG** standards
- Ensured proper regression testing through the development of test cases using **Cucumber** and **PHPUnit**
- Partook in sprint planning, stand-ups, and retrospectives within an **Agile** framework, improving team workflow

### Software Developer Co-op

#### Paphus Solutions

Sept 2020 – Dec 2020

Ottawa, Ontario

- Contributed to the open source AI platform BotLibre, through the deployment of new chatbot functionalities
- Added **NLP** functionality to classification analytics in **TensorFlow**, increasing the capabilities of analytics by **100%**
- Upgraded an **Apache Tomcat** server to ensure seamless AI feature deployment, increasing project scalability
- Migrated 4000+ lines of code written in **Java** to **Objective-C** to maintain **Android** and **iOS** mobile applications

## Open Source / Projects

### Web Applications

- Made an aesthetic [language learning tool](#) using **SvelteKit**, and deployed it to **Vercel**
- Created a music-based [full stack application](#) with a **RESTful API** back-end written in **Flask** and a **Svelte** front-end
- Designed a [development tool](#) to determine colours that meet the **WCAG** contrast ratio requirements
- Developed a [web scraper](#) in **Python** that evaluates the accessibility metrics of different websites
- Participated in the Microsoft AI for Accessibility competition, and designed a prototype using the **OpenAI API**

### Software Projects

- Developed realtime [embedded software](#) for a fitness centre using **QNX Neutrino** and **C**
- Integrated TorToiSe TTS with GPT models to deliver a comedic [talking bot](#) that generates audio output
- Programmed a [simulation](#) that re-creates the work of an RFID anti-collision algorithms research paper
- Built a [Python application](#) that allows the user to upload PDF/docx files and have them converted into TTS
- Programmed a simulator for a medical therapy device in **C++**, making use of the **Qt** framework

## Skills

**Languages:** Python, Java, C, C++, JavaScript/TypeScript, PHP, Swift

**Technologies:** Node.js, Express, Flask, Svelte, React, HTML/CSS, TailwindCSS, SQL, MongoDB, Linux, QNX, Android, iOS

**Developer Tools:** Git, SVN, OpenAI API/GPT, Jira, Trello, Docker, Kubernetes, Azure, AWS, VS Code,  $\LaTeX$

**Concepts:** Artificial Intelligence/Machine Learning, Object-Oriented Programming, Algorithms and Data Structures, Agile Development/Modeling, CI/CD, W3C Accessibility Standards, Cryptography, RESTful Design, Cloud Native, UX/UI design