

# Alexander Bhasin

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## Experience

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### Full Stack Developer

Jan 2023 – Present

#### Daitoku Co.

Ottawa, Ontario

- Developed scalable web and mobile applications, through the use of **Svelte**, **Express**, **Swift**, and **Kotlin**
- Established **PostgreSQL** and **MongoDB** databases, ensuring efficient data management across applications
- Deployed applications to **AWS**, utilizing **S3** buckets and **CloudFront** for optimized cloud-based solutions
- Implemented **CI/CD** pipelines using **GitHub Actions**, automating deployment processes for increased efficiency

### Web Developer Co-op

Sept 2022 – Dec 2022

#### Bank of Canada

Ottawa, Ontario

- Improved functionality on custom **WordPress** deployments, enhancing the 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**
- Participated in sprint planning, stand-ups, and retrospectives within an **Agile** team, improving team workflow

### Software Developer Co-op

Sept 2020 – Dec 2020

#### Paphus Solutions

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

## Projects

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### Web Applications

- **Kana DT**, a learning tool built with **SvelteKit** designed to enhance language acquisition through engaging **UI/UX**
- **MoodyMix**, a web application built with **Flask** and **Svelte** that allows users to map songs to sets of emotions
- **Dark Mode Colours Tool**, a tool for determining colours that are compliant with **WCAG** contrast ratios
- **frOCR**, an application that extracts text from images and translates it using Tesseract OCR and DeepL

### Software Projects

- **Red Pyramid**, a dungeon crawling role-playing game built in **Kotlin**, using LWJGL to render simple 3D graphics
- **Concurrent Fitness Centre**, embedded software based in **QNX Neutrino** and **C** that simulates a fitness centre
- **Larry David Talkabot**, a program that integrates TorToiSeTTS with **generative AI** models to deliver a comedic bot
- **RFID Collision Avoidance**, a simulation that models the work of an RFID anti-collision algorithms research paper

## Education

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### Carleton University

Sept 2018 – April 2023

Bachelor of Computer Science, Honours Cybersecurity Stream, **3.9/4** GPA

Ottawa, Ontario

## Skills

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

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

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

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