

# Antarpreet Khalsa

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[Portfolio Website](#)

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## Experience

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**Full Stack Developer (Part-time)** – UWaterloo Linguistics – Waterloo, ON Sep 2023 – Jan 2024

- Drove **backend API** development in **GoLang** and **Docker**, updating **MySQL queries** for database tables to adapt to evolving project needs in coordination with the content development team.
- Revamped frontend features in **Next.js** applications utilizing **TypeScript** and **Material UI**, aligning seamlessly with backend updates and integrating newly requested features, leading to improved customer interaction and retention.
- Enhanced code reliability through meticulous **unit testing** for both frontend and backend components, elevating code quality, ensuring **smooth integration**, and enhancing overall stability of the university research app.

**Javascript Developer Intern** – Cardinal Entertainment – London, ON Jan 2023 – Apr 2023

- Built a friend management system with leaderboard and chat features for a web3 game, using **web-sockets**, **ReactJS**, **Material UI**, **Typescript**, **Nakama server**, **CockroachDB**, and **Docker**, successfully serving **38,000 players**.
- Championed the integration of **multi-blockchain compatibility** within the NFT marketplace DApp, implementing minting, trading, and collection lookup features seamlessly using **Vue.js**, **Bootstrap**, **ethers.js**, and **Metamask**, resulting in a fast and robust user-friendly solution.
- Designed and developed a key front-end Dapp using **ReactJS**, **ethers.js**, and **Metamask** for a VIP and add-on memberships contract, increasing user-retention by **over 20%**.

**Software Developer Intern** – Dye & Durham Corporation – Toronto, ON May 2022 – Aug 2022

- Revamped and modernized two major company websites (300+ pages each) using **CSS3**, **ColdFusion**, **Figma** and **Jira**, enhancing user experience, accessibility, and successfully implementing a rebranding campaign through agile workflow with corporate and HR teams.

## Projects

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**Karenslist** – Social Networking Platform for Tradesmen

[Link](#)

- Created a **ReactJS** based social platform for sharing customer experiences, integrating secure user authentication with **Google Sign-In API (GCP)** and **OAuth2.0**, along with **Axios.js** and **Google Maps APIs** for location-based review display.
- Developed a robust **REST API** using **FastAPI** in **Python**, employing **MySQL** on **AWS RDS** and **SQLAlchemy** for efficient data storage. Ensured user privacy and security through **JWT**-based authentication.
- Deployed the backend on **AWS** using **Docker**, **AWS ECR**, and **AWS EC2**. Established efficient **CI/CD** pipeline with **GitHub Actions** for seamless updates, ensuring quick and reliable container deployment.

**Emergency Response Path** – Shortest path for first-respondents in a city

[Link](#)

- Executed **Dijkstra's algorithm** to optimize emergency response routes, considering distance, safe speed, and real-time traffic conditions for city intersections of an undirected graph in **C++**, **without the use of STL libraries**.
- Ensured system stability with **meticulous testing**, including **memory leak checks** on **Linux** using **Valgrind** with a large dataset, demonstrating commitment to reliability and robust code.

**uPrep** – AI-Powered speech based interview prep tool

[Link](#)

- Built an intuitive application using **React**, **Django**, **Nodejs** and **MongoDB**, allowing users to record and convert speech to text for interview-style responses. Integrated a **custom trained Cohere Classify Model** to provide scoring to users.

## Education

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**University of Waterloo** - BAsC Computer Engineering

Sep 2021 – Apr 2027

- Coursework - Data Structures & Algorithms(C++), Digital Computers, Electronic Circuits, Numerical Analysis(MATLAB)
- Online Courses - Database Systems, Intro to Docker, Blockchain Dev (Solidity), FullStack Dev, Intro to DevOps, SQL