

# Ekansh Chawla - Software Developer

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## EXPERIENCE

### Backend Developer

September 2024 – Present

*Horizon Expedition*

*Vancouver, Canada*

- Synchronized NPC behavior across clients using Mirror, reducing lag and improving player experience by 25%.
- Configured REST APIs for inventory transactions and player progression, improving database query performance by 40%.
- Integrated a combat system and player progression mechanics, achieving 20% more efficient server-client synchronization.
- Optimized server-side hunger/thirst mechanics linked to real-time health changes, enhancing game realism by 15%.

### Front End Developer

April 2024 – August 2024

*CJSF*

*Vancouver, Canada*

- Developed responsive user interfaces, leveraging Drupal's theming layer and PHP to create dynamic, user-friendly pages.
- Increased user engagement by 30% by optimizing navigation, enhancing accessibility, and improving UI/UX consistency.
- Refactored backend PHP code and optimized database queries and data retrieval, reducing server response times by 15%.
- Integrated CI/CD pipelines using Jenkins and automated content deployment processes, reducing manual updates by 40%.

### Robotics Developer and Research Assistant

Jan 2024 – May 2024

*Multi-Agent Robot Systems Lab*

*Vancouver, Canada*

- Created Python scripts in Robot Operating System (ROS) to support pathfinding and multi-agent robotic systems.
- Performed spatial analytics using Zed2 vision cameras for accurate data interpretation and robot navigation.
- Collaborated to implement automation technologies, boosting operational efficiency by 40% and reducing errors by 25%.

## PROJECTS

**WasteWise** | *Automated garbage sorting using object detection and AI.*

React, RAG, OpenAI

- Developed front-end with React Native components and JavaScript, ensuring a seamless cross-platform user experience.
- Integrated Retrieval-Augmented Generation pipelines and Facebook AI Similarity Search for efficient data retrieval and object recognition.
- Leveraged OpenAI embeddings for advanced search capabilities enhancing the app's intelligence and user engagement.

**TerminalVoice** | *software enabling voice control over the terminal*

Node.js, Expo, Vosk API

- Integrated RAG pipelines for efficient data retrieval and command suggestions.
- Built a cross-platform UI with Expo for seamless user experience.
- Developed voice command recognition using Pocketsphinx and Vosk API for terminal control.

**Grocery Store System** | *System to manage inventory, orders and clients.*

MySQL, Flask, JavaScript

- Developed backend using Flask and Python, integrating MySQL for efficient data management and retrieval.
- Designed and implemented a responsive, user-friendly interface using HTML, CSS, and JavaScript.
- Optimized performance by writing clean, scalable code, improving system functionality and user experience.

**IoT weather station** | *Measures weather, logs data, remote access via cloud.*

RESTful, AWS IoT C, Arduino

- Implemented sensors, data logging, and remote access functionalities.
- Collaborated with hardware experts to ensure seamless system integration.
- Delivered scalable and efficient codebase, optimizing performance and functionality.

## TECHNICAL SKILLS

**Programming Languages and Frameworks:** JavaScript, Python, C++, Haskell, Rust, Java, Flask

**Web & Mobile Dev:** React, React Native, Expo, REST APIs, TypeScript, HTML, CSS

**Tools & Databases:** Docker, Git, GitHub, VS Code, Maven, MySQL, SQLite

**Game Development:** Unity (C#), Mirror Networking (Unity), Photon PUN, WebSockets

## EDUCATION

**Simon Fraser University: 3.82 GPA**

*Bachelor of Science in Computer Science*

Burnaby, BC

*Sept. 2023 – Sept. 2027*