

Ekansh Chawla - Software Developer

Portfolio Website | 778-990-4365 | Email | LinkedIn | Hackaday | Github

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%.
- Collaborated with a cross-functional team to integrate REST APIs for inventory transactions and player progression, achieving efficient, scalable solutions.
- Improved server-client synchronization by 20% by refining combat system and player progression mechanics.
- Optimized server-side hunger/thirst mechanics, linking real-time health changes and enhancing game realism by 15%.

Front End Developer

April 2024 – August 2024

CJSF

Vancouver, Canada

- Enhanced user engagement by 30% through optimized navigation, accessibility improvements, and consistent UI design.
- Implemented CI/CD pipelines using Jenkins to automate deployments, reducing manual work by 40%.
- Worked with PHP and Drupal for dynamic content management, focusing on collaborative problem-solving to achieve team objectives.

Robotics Developer and Research Assistant

Jan 2024 – May 2024

Multi-Agent Robot Systems Lab

Vancouver, Canada

- Designed ROS-based pathfinding algorithms for multi-agent systems and conducted spatial analytics with Zed2 vision cameras.
- Collaborated on automation improvements, increasing lab 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 | *Real-time data acquisition, cloud-based logging, and remote monitoring*

- Integrated sensors for accurate meteorological data capture, ensuring low-latency data transmission and storage.
- Developed robust data logging using AWS IoT Core, enabling real-time data processing and 99.9% uptime.
- Collaborated with hardware and network engineers to streamline cloud interfacing and device compatibility.
- Optimized C-based firmware to deliver a scalable, modular architecture, improving system efficiency by 35%.

TECHNICAL SKILLS

Programming Languages and Frameworks: JavaScript, Python, C++, Haskell, Java, SCIM, Flask, OAuth

Web & Mobile Dev: React, React Native, REST APIs, TypeScript, HTML, CSS, Jira, Agile Methodologies

Tools & Databases: Docker, Git, GitHub, VS Code, Maven, MySQL, SQLite, CI/CD (Jenkins), Pandas

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

EDUCATION

Simon Fraser University: 3.82 GPA

Burnaby, BC

Bachelor of Science in Computer Science