

Patrick Zhou

3rd Year BSc. Computer Science at University of British Columbia

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EDUCATION

University of British Columbia

Sep. 2023 – May 2027

Bachelor of Science, Major in Computer Science

Vancouver, BC

GPA: 96.8% (4.33)

EXPERIENCE

Software Engineer Intern, Infotainment Applications

Jan. 2025 – Present

Rivian

Vancouver, BC

- Worked as a **full-stack Android developer** on the Infotainment Media App, completing 3 major features, fixing 20+ bugs, and integrating 30+ 3rd-party APKs.
- Implemented a new responsive, animated UI for the Media Source Selector, integrating a **MVC** architecture with a state machine to achieve a single source of truth for UI state.
- Redesigned source selector back-end data flow based on MVI architecture, serializing data with **protobuf**, to decouple UI logic from business logic.
- Leveraged **Kotlin** null-safety, SOLID design principles, dependency injection, and observer patterns to keep code reliable, modular, and testable.
- Identified and fixed performance issues using **coroutines** and Android's strict mode.
- Developed new features for Apple Music, contributing to a **5% increase** in its usage to 50k+ active users.

PROJECTS

ThirdEye | Hack The North 2025 | *Raspberry Pi, Python, DynamoDB, AWS Lambda, OpenSearch*

Sep. 2025

- Orchestrated development and assembly of a **voice-activated portable smart camera** built on a **Raspberry Pi 5** to assist visually impaired individuals with navigation, perception, and recall.
- Implemented **image capture and processing** with Raspberry Pi camera and Cohere's AyaVision model.
- Integrated audiovisual I/O with **DynamoDB** streams connected to a **OpenSearch vector database** using AWS Lambda, to store and subsequently query embeddings of previously captured scenes.
- Harnessed and configured **speech recognition** and text-to-speech libraries in Python to create a reliable natural language audio interface with total two-way latency of under **1000ms**.

CredEat | NWHacks 2025 | *Flask, Python, React*

Jan. 2025

- Developed back-end for a recipe nutrition rating app in Flask, using OpenAI API for **natural language processing** and FatSecret API to fetch nutritional data.
- Tailored genAI prompts with one-shot prompt engineering to produce consistent, stable output for parsing a natural language recipe into a format usable by the nutrition API.

CanDo Tennis | Individual | *Typescript, Next.js, React, TailwindCSS*

Jul. 2024 – Present

- A responsive, dynamic site built with **Next.js** and deployed with Vercel for my family's tennis coaching business.
- Implemented **fully responsive UI** with media query breakpoints and layout utilities in **TailwindCSS**.
- Leveraged **Next.js server-side rendering** to reduce load times by 50% to 665ms.

Fighting My Demons | **Winning Submission, HackCamp 2023** | *Python, PyGame, Figma*

Nov. 2023

- Led a team and spearheaded development to **win 1st place** out of 250+ participants at HackCamp 2023.
- Built a unique puzzle-solving alarm game in **PyGame**, intended to prevent you from hitting the snooze button.
- Developed game UI, alarm system, card-matching gameplay, music and animations within a 12-hour deadline.

TECHNICAL SKILLS

Languages: Python, Kotlin, JavaScript, C#, Java, TypeScript, HTML/CSS, R, C++

Frameworks: Android, Next.js, React, Godot, Flask, Unity, REST APIs

Tools: Git, GitHub, GitHub Actions, Linux, Vercel, Jupyter, Docker