Alex Zhou

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EDUCATION

University of Waterloo Waterloo, ON · Expected May 2030

Bachelor of Software Engineering

EXPERIENCE

Hackathon Team Member | *YRHacks* Richmond Hill, ON · Feb. 2025 – Apr. 2025

- Engineered an NFC Card Reader solution to repurpose existing high-school ID cards, enabling seamless student access management
- Architected a relational SQL database backend to securely store and manage records for hundreds of students
- Leveraged Git version control and Agile sprint sessions with team members, improving team velocity and delivery efficiency

Executive – Artificial Intelligence Club | *Middlefield Collegiate Institute* Markham, ON · Sep. 2024 – Jun. 2025

- Led curriculum development and instruction on **artificial intelligence** and **cybersecurity** concepts for **50+** students
- Drove club growth through targeted outreach and live public demos, expanding membership by **25%**
- Organized an Hour of Code event enabling students to build and train computer vision models from scratch

Retail Sales Associate | *Fresh Beverages* Etobicoke, ON · Jul. 2021 – Jul. 2025

- Delivered high-quality service to **75+** customers daily in a fast-paced, high-volume retail environment
- Cultivated strong customer relationships that improved loyalty, retention, and repeat business

PROJECTS

AI-Assisted Academic Knowledge Base | Oracle ATP, Java, SQL, Linux, Google Gemini Nov. 2025 – Present

- Designed a structured academic database to organize and retrieve **1000+** university notes for long-term knowledge management
- Built a **Java** backend integrated with **Oracle ATP** using **SQL** for scalable, persistent storage
- Deployed application on Oracle Cloud Infrastructure using **Linux** for headless, always-on operation
- Integrated **Google Gemini API** and **Node.js** to automate note summarization and render **LaTeX** equations

Remote Web Server | Oracle Cloud, Linux Aug. 2022 – Present

- Provisioned and managed an **Oracle Cloud Compute** instance for hosting applications and persistent data storage
- Configured **Linux** environments and persistent terminal sessions to support concurrent application deployments
- Administered **network port** configurations to run **10+** game servers with minimal downtime
- Performed ongoing **system maintenance** by monitoring long-running processes and ensuring platform stability

Discord Server Bot | Google Gemini, Java, JDA, LavaPlayer, Maven Apr. 2024 – Oct. 2025

- Developed a full-featured **Discord bot** providing automation, real-time utilities, and entertainment for a community server
- Implemented citation **web scraping** and **Google Gemini AI** integration for intelligent, context-aware responses
- Built a YouTube music player using LavaPlayer, supporting seamless audio streaming within Discord voice channels

Java Live Image Recognition | Google API, Java, Maven, TensorFlow Mar. 2025 – May 2025

- Developed a Java application to integrate **Google Teachable Machine** models for real-time image classification
- Built a GUI enabling users to upload and swap custom **TensorFlow** models via console integration
- Delivered live demos to students, illustrating practical applications of machine learning and computer vision

TECHNICAL SKILLS

Languages: Java, Python, C, C#, C++, SQL, JavaScript, Node.js, HTML, CSS, Bash

Developer Tools: Agile/Scrum, Git, GitHub, GitLab, Linux/Unix, Oracle Cloud Infrastructure, IntelliJ IDEA, CLion, PyCharm, Eclipse

Libraries & APIs: Apache Maven, Google APIs, Java Discord API (JDA), LavaPlayer, TensorFlow