

Lucas Jin

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Projects

Lips Lips Revolution - Hack the North 11 📄

Sept 2024

- Created a lip syncing game with a userbase of over **50 people** using the **Symphonic Labs Mamo API** and **OpenAI embedding models**.
- Reduced latency from **30** seconds to **7** seconds by **reverse-engineering** the Mamo API with websockets.
- Utilized **Next.js** for rapid full stack development and QR codes and **MongoDB** for user authentication/tracking.

Pixel Pets Plugin - Obsidian 📄

Jun 2024 - Present

- Developed a custom Obsidian plugin using **Typescript** that spawns animated pixel pets with **1000+** downloads.
- Engineered a **class-based** animation system using custom **CSS** properties and DOM manipulation to support multiple pets and persist state across sessions.
- Integrated **ESBuild** to bundle external dependencies like sprite sheets for plugin architecture compatibility

Discord Attendance Bot - FRC 8729 📄

Nov 2024 - Present

- Utilized the **Discord API** with a **SQLite database** and **Python** to track attendance of a team with **90+ members** with a clock-in/clock-out mechanism.
- Integrated a custom calendar format attendance spreadsheet with the **Sheets API** for more accessibility.

Drama Production Manager 📄

Dec 2024 - June 2025

- Developed a web application to automate attendance tracking and scheduling for school drama productions (estimated **100+** users) for ICS4U project using a **PERN** stack.
- Utilized **Docker** and **Agile development** for more efficient collaboration and quicker deployment.

Skills

Languages: Javascript/Typescript, Python, SQL

Frameworks, APIs and Services: React.js, Next.js, Node.js, Express, Firebase, MongoDB, PostgreSQL

Tools/Skills: Github, Git, VSCode, L^AT_EX, Docker, Agile development

Experience

Programming Intern 📄

Remote

STEM-E

Sept 2024 - July 2025

- Used a **FERN** stack to automate the processing of **1000+** volunteers.
- Followed an **agile methodology** with user stories and **DoD** criteria to manage a quality project workflow.
- Automated timesheet creation via Google Sheets API integration, eliminating **100%** of manual setup.

Software Team Lead 📄

Ottawa, Ontario

FRC Team 8729 - Sparkling Youth Robotics Club

June 2023 - June 2025

- Instructed **19** software members in the development of a command based robot using **Java** and **OOP** principles.
- Integrated **computer vision** pipelines and **PID tuning** with hardware systems, improving response speed by **3x**.

Software Team Lead / Mechanical Member 📄

Ottawa, Ontario

Vex Team 50226A - Merivale Vex Robotics

Oct 2023 - Feb 2025

- Developed autonomous and teleoperated functionality despite hardware limitations using **C++** and **OOP**.
- Gained hands-on experience with **pneumatics** and designing custom mechanisms, including a conveyor belt **gearbox**.

Education

University of Waterloo, Waterloo, Ontario

Sept 2025 - Present

BCS, Honours Computer Science with Co-op

- Clubs:** Computer Science Club Web Committee Executive

Awards

- René Descartes National Scholarship and President's Scholarship of Distinction (\$22k)
- Overall Track 1st Place - \$1000 (Hack404 - July 2025) 📄
- (Solo) Best Pitch (Terrahacks 2025 - Aug 2025) 📄
- Best Use of MongoDB Atlas (Hack the North 11 - Sept 2024) 📄
- (Solo) Best Home Track Project (Lazy Hacks - Dec 2024) 📄
- FRC Team 8729 - Division Champion (FIRST Ontario Provincial Championship Technology - Apr 2024) 📄