

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 **600+** 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** - *ICS4U* [🔗](#) *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 - Future*
BCS, Honours Computer Science with Co-op
- Relevant Courseware:** Designing Functional Programs (Advanced), Algebra (Honours), Calculus 1 (Honours)
 - Clubs:** Computer Science Club (Web Committee Executive)
- Merivale High School**, Ottawa, Ontario *Sept 2021 - June 2025*
International Baccalaureate DP (42/45) *Average: 97.3*

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*) [🔗](#)