

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.

StudySphere - UOttHack 6 📄

Mar 2024

- Developed a social studying platform with features such as account creation, user authentication and posting features using **Flask**.
- Defined users and their questions/answers with a local **relational database** made with **SQLAlchemy**.

FRC 8729 Attendance Bot 📄

Nov 2024 - Present

- Utilizing 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.
- Integrating a custom calendar format attendance spreadsheet with the **Sheets API** for more accessibility.

Drama Production Manager 📄

Dec 2024 - Present

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

Skills

Languages: Javascript, Python, C++, Java, SQL

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

Tools: Github, Git, VSCode, L^AT_EX, Docker

Experience

Software Team Lead 📄

Ottawa, Ontario

FRC Team 8729 - Sparkling Youth Robotics Club

Jun 2023 - Present

- Instructing **19** software members in the development of a command based robot using **Java** and **OOP** principles.
- Integrating software like **computer vision** pipelines and **PID tuning** with hardware systems for precise commands.

Programming Intern 📄

Remote

STEM-E

Sept 2024 - Present

- Aiding in implementing a web application to automate the processing of **1000+ volunteers**.
- Integrated **React.js** with **Node.js** and **Express** to write data to a signup spreadsheet based on **Firebase** data.
- Following an **agile methodology** with user stories and **DoD** criteria to manage a quality project workflow.

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

Incoming BCS, Honours Computer Science with Co-op

- René Descartes National Scholarship and President's Scholarship of Distinction (\$22k)

Merivale High School, Ottawa, Ontario

Sept 2021 - Present

International Baccalaureate DP

Average: 97.7

- Clubs:** Math (Executive, 2021-Present), Mock Trial (Executive, 2022-Present), CS (Member, 2021-Present)

Awards

- 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*) 📄
- Honor Roll Group 4 (*Waterloo Hypatia Mathematical Competition - Apr 2024*) 📄
- 60/75 on CCC Junior - Distinction (*Canadian Computing Contest - Feb 2023*) 📄