

Bernie Liu

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EDUCATION

University of Waterloo

Bachelor of Software Engineering, Honours Software Engineering, Co-op

Waterloo, Ontario

Sept. 2026 – Apr. 2031

EXPERIENCE

Full-Stack Developer

Teenage Theory

July 2025 – July 2026

Richmond Hill, Ontario

- Co-founded and developed a student-led blogging platform using **Next.js**, **React**, **Prisma**, and **MongoDB**, enabling teenagers to publish and manage original articles.
- Implemented CRUD functionality, responsive interfaces, and **Firebase Storage** integration for image uploads across mobile and desktop devices.

Lead Programmer

Richmond Green Robotics Team

Sept. 2024 – June 2026

Richmond Hill, Ontario

- Founded and led a VEX V5 robotics team with **20+ members**, coordinating software, mechanical, and outreach efforts throughout the competition cycle.
- Programmed autonomous and driver-control systems in **C++** using **PROS** and **LemLib**, integrating motors, sensors, pneumatics, and PID-based movement.

Software Developer

Richmond Green Computer Science and Model United Nations Club

Sept. 2023 – June 2026

Richmond Hill, Ontario

- Developed the official Model UN website using **HTML**, **CSS**, **JavaScript**, and **Tailwind CSS**, serving **300+ users** while leading a team of six contributors.
- Built reusable responsive components and interactive frontend features, debugging layout and browser issues to maintain a consistent experience across desktop and mobile devices.

PROJECTS

Kitchen Rush 3D | *TypeScript, Three.js*

Dec. 2025 – Feb. 2026

- Developed a browser-based **3D cooking game** using **TypeScript** and **Three.js**, featuring player movement, ingredient handling, recipes, and interactive kitchen stations.
- Implemented **collision detection**, object interactions, cooking states, scoring, order management, and reusable GLTF models.

Airport Search Engine | *TypeScript, HTML/CSS*

Sept. 2025 – Nov. 2025

- Built a custom airport search engine capable of searching **100,000+ records in under 0.3 ms** and sorting them in under **5 ms**.
- Developed a **greedy pathfinding algorithm** that minimized distance, travel time, or cost while enforcing aircraft range, landing, and transfer constraints.

Invoice Processing System | *Python, PyQt5, python-docx*

May. 2025 – Aug. 2025

- Developed a desktop **invoice automation system** using **Python** and **PyQt5** to process delegation data from CSV and Excel files and generate formatted invoices.
- Automated document generation with **python-docx**, reducing manual data entry and streamlining invoice creation for Model UN delegations.

TECHNICAL SKILLS

Languages: TypeScript, JavaScript, Python, C++, Java, HTML/CSS, SQL

Frameworks & Libraries: React, Next.js, Three.js, Tailwind CSS, PyQt5, Prisma

Tools & Platforms: Git, MongoDB, Firebase, Vercel, VS Code, PROS, LemLib