

EDUCATION

University of Toronto

Bachelor of Science, Computer Science & Physics double major

Expected Apr 2027

Toronto, Ontario

EXPERIENCE

RIIS

Software Engineering Intern

May 2025 - Aug 2025

Full-Time / Troy, Michigan

- Built drone remote controller completely from scratch with custom PCB and case as well as software
- Designed efficient C++ firmware (on 2KB RAM, 16MHz CPU) based on asynchronous event loop
- Communicated directly with clients to make design choices and iterate based on feedback

Watoga Technologies

Riipen Intern

Feb 2025 - Mar 2025

Part-Time / Remote

- Used Python to process 440MB of poorly formatted rock samples, cleanup, and add to SQL database
- Multithreaded code to solve file parsing library bottleneck (7.6x speedup)
- Built Scipy/Matplotlib models to find mineral rich deposits, using novel 2D and 3D visualizations to prove accuracy

Optimotive

Robotics Intern

Jan 2023 - May 2023

Part-Time / Windsor, Ontario

- Primary engineer of an industrial cleaning robot prototype (programming, fabrication, & electronics)
- Programmed subsystems (ex. RealSense depth cameras), interfacing with our robot chassis via its Linux computer
- Reverse engineered undocumented motor controller protocols to support game controller input

EXTRACURRICULAR

UofT Autonomous Scale Racing

Team Member

Nov 2024 - Present

Toronto, Ontario

- Firmware development, electronics, etc... in production of an autonomously driving 1/10th scale RC car

CS Games

Participant/Winner

Mar 2024

Montréal, Québec

- Selected by university to participate in 3 days of pair competitive-programming style challenges
- Won "High-Performance Computing", best performance optimizing an ML framework in C++ & WebGPU

PROJECTS

[reactutor \(live demo\)](#)

- AI course tutor. Users upload PDF assignments, AI determines relevant learning goals & practice problems, and can then generate practice exams. AI chat provides feedback on incorrect answers, explains concepts, etc...
- Backend: Flask (Python), Frontend: React, Tailwind, Vite (JavaScript), AI: Google Gemini Pro & Flash

[onef \(github\)](#)

- Toy deep learning / ML framework in plain C++. Supports inference, training (SGD & backprop) for sequential-style networks (units like Linear, ReLU). Solves many classification problems (XOR, MNIST).

[winzard \(github\)](#)

- Tool to generate optimal (least time between classes) university timetables, actively used by students.

[imu-dashboard \(github\)](#)

- RA contract: Wrote ESP32 C++ HTTP server (socket level) to serve HTML and endpoints exposing sensor data

TECHNICAL SKILLS

Languages: C, C++, C#, Go, Python, HTML, CSS, JavaScript, Java, Bash

Developer Tools: React, Bulma, Tailwind, Firebase, Unity, MongoDB, SQL, Git, Docker

Other: Fusion 360, 3D Printing, Linux, Embedded Systems, Arduino, ESP32