





Clive Fellows

Third Year Mechanical
Engineering Student at the
University of Toronto

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EDUCATION

UNIVERSITY OF TORONTO

*Bachelor of Applied Science and
Engineering (B.A.Sc.) in Mechanical
Engineering, Business Minor
(Expected graduation Apr 2026)*

GENERAL SKILLS

Programming Languages: C#,
Python, Rust, JavaScript &
TypeScript, HTML & CSS, MATLAB

Frameworks: Electron, Tauri,
React, NodeJS, Unity

Mechatronics: Arduino micro
controllers, developing and
sauntering proto boards.

Design Software: SOLIDWORKS,
Ansys, Fusion 360, Blender

Software: Git & GitHub,
Microsoft Office & VBA (Word,
Excel, PowerPoint)

Other Skills: Design and Drawing
of Mechanical Systems,
Collaboration, Problem-Solving,
Innovation

CERTIFICATIONS

George Brown Machining &
Welding courses
French DELF B2 (Fluent)

HIGHLIGHTS

- 3rd year engineering student with extensive professional and hobby experience in software engineering.
- Experienced in common languages and frameworks such as C#, Python, Rust, JavaScript, HTML & CSS, Electron, NodeJS, React, Tauri, and Unity.

EXPERIENCE

CN RAIL

Innovation Management Intern

May 2023 – Aug 2023

- Created an Electron-based desktop app that parses log files from CN's wearable safety program to give insights into the conditions of yard incidents.
 - ❖ Uses the Google Maps API to create and display a heat map of where user-specified incidents are occurring.
 - ❖ Users can generate graphs of incident variables to look for trends.
- Worked with an external engineering team to implement features for an Android app which was part of the wearable safety program.
 - ❖ Devised and delegated changes to the location querying system to make it use less power while also being more precise.
 - ❖ Designed and implemented a new threat analysis algorithm that was more simple, accurate, and efficient than the previous one.
- Developed and followed hardware and software prototype testing plans and met with testing participants in the field.

UNIVERSITY OF TORONTO FORMULA SAE RACING (UTFR)

Senior Member

Sep 2022 – Present

- Member of a student engineering team developing a formula-style electric racing car for SAE international competitions.
- Currently developing a new file management solution for the team with version control and remote sync features.
- I also design, manufacture, and install custom parts for the car's braking system, such as a pneumatic over hydraulic booster cylinder for the autonomous brake.

PROJECTS

COLLAB CAD

Developing version control and remote sync software to share large binary files such as CAD files between devices by pushing and pulling to a remote central repository.

- Desktop app developed using the Tauri framework to support a local rust backend with a React front end.
- Server API being developed in rust using the Axum web app framework.

MOUSE CAMERA

I wrote an Arduino program and windows forms application to interface with the camera chip on a mouse and pull images off the debug serial port.

- The Arduino sets up I2C communication with the mouse and then forwards commands from the windows app (received over USB) to allow the app to read and write to arbitrary memory buffers.

VOXEL ENGINE

I use sparse voxel octrees to generate and render voxel planets made of n voxels with $\log(n)$ memory usage and render time. Voxels are generated using open simplex noise in a compute shader and the isosurface is then extracted using the marching cubes algorithm.

See more of my projects on my website at crfellows2.github.io/#projects