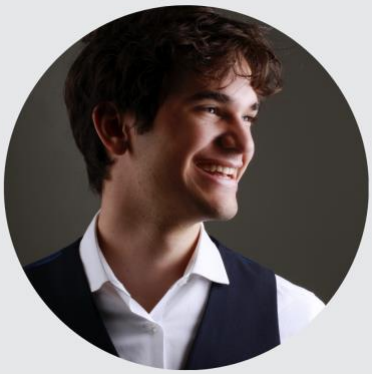
Alexandre Radaelli

Electrical Engineering Student



I'm 20 and I love working on cool projects with friends. Right now, I'm diving into robotics to see where I can make an impact. I'm interested in new tech, including AI—where I've built RAG-based search model—and energy generation, especially nuclear, which I've been researching since high school.

I'm set on joining the robotics industry to gain real-world experience and refine my approach to building. I know the thrill of getting hardware to work is unmatched, but I want to understand how much trial and error plays into industry workflows and whether I can thrive in that environment.

Outside of tech, I stay active by playing soccer, doing gymnastics, running, and hitting the gym to stay healthy. In my free time, I ski and rock climb. I'm also experimenting with Bryan Johnson's Blueprint to see if I notice any benefits.

Ultimately, I'm looking for a team that's deeply invested in their vision and has built an environment that fosters motivation—one that's willing to take me on as a curious, driven individual who's still learning but pretty good at figuring things out.

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PROJECTS

BRACKETBOT HACK 2025

My team built a three-wheeled bracket bot controlled via a Wii Remote and Balance Board, featuring a POV camera streamed through localhost and speakers playing classic Wii music.

RC CAR 2024

My first robotics project was an RC car built with Arduino, H-bridges, DC motors, a Bluetooth module, and a battery pack.

3D PRINTING HOBBY 2020

I've been 3D printing since early COVID, starting with random prints like a wallet and evolving into designing robotics parts. I use Fusion and am learning Onshape, with experience on Bambu Lab and Prusa printers.

DRONE MOTOR CONTROL 2025

As part of the planetary robotics team, I'm developing motor control for a drone by replacing the ESC with a surface-mounted chip that takes PWM signals and drives an external MOSFETs circuit.

MICROBOT HACK 2024

For the Microbots Hackathon, my team built a bunny-like quadrupedal robot (4" x 4" x 4.5"). It uses a CodeCell, DriveCell, DC motor, LiPo battery, and bevel gears to drive its legs with a unique mechanism.

REPLIT 100 DAYS PYTHON 2023

Python was my starting point in coding and continues to be my strongest language. I can also work with C and Java.

EXPERIENCE

Jan to Dec 2025

HATCH Ltd. — ENERGY BUSINESS UNIT

Electrical Engineering Co-op — Toronto, Canada

During my one year at Hatch, I got to work on diverse projects across nuclear, power transmission, industrial system design and software initiatives.

- **Nuclear Research Reactor Study** – Assisted with a determination and bid for a nuclear research reactor.
- **HVDC Function Specification** – Contributed to substation design, cable selection, and grid stability studies.
- **Industrial HVAC & Heat Pump Design** – Helped in the design of the control systems for a HVAC system and performed electrical wiring calculations for an industrial heat pump installation project.
- **Internal Software Projects** – Automated quality tasks and developed RAG-based search algorithms for the Nuclear and Quality teams.

Summer 2023

BELL CANADA — NETWORK OPERATION

Technician — Greater Toronto Area, Canda

Worked on internet routing as Bell transitioned from DSL to fiber in the GTA. Helped migrate customers between DSLAMs, decommission old units

2018 - 2020

TORONTO GYMNASTICS INTERNATIONAL

Gymnastics Coach — Toronto, Canada

I worked as a certified gymnastics coach for 2 years while in high school. Every time I went with the mindset: "How can I influence these kids towards future success.". I created lesson plans and worked with a team of other coaches to make it possible.

EDUCATION

2022 - Present

CARLETON UNIVERSITY

Electrical Engineering — Ottawa, Canada

- Completed 1st year with a 4.24 GPA and Fall of 2nd year with a 4.3.
- Currently holding a Renewable Entrance Scholarship, the Faculty of Engineering Scholar Award and Department of Electronics Parameswaran Family Scholarship (total of >20 000 CAD).
- My target graduation date is Winter 2027.