

Eric Filiol

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EDUCATION

Queen's University, bachelor's in electrical engineering

Expected Graduation: May 2028

SKILLS

Coding Languages: C, VHDL

Lab Equipment: Oscilloscope, Function Generator, Soldering Iron

Design Tools: Altium Designer, KiCad, LTspice, SolidWorks

Hardware: Microcontrollers (ESP32, Arduino), FPGA (DEO-CV)

Language: English (Fluent), French (Fluent)

PROJECTS

Lower Limb Exoskeleton - Motor Control & IMU Feedback System | Queen's BioMechatronics Design Team

- Programmed **real-time motor control algorithms in C** for **AK60-6 stepper motors**, integrating **MPU-6050 IMU feedback**, PD control, and gravity compensation for smooth joint motion.
- Implemented **CANBus communication** to coordinate multiple AK60-6 stepper motors for synchronized multi-joint actuation.
- Contributed to the team's **first-place victory** at the **2025 ACE (Applied Collegiate Exoskeleton) Competition** in Ann Arbor, Michigan.

WORK EXPERIENCE

Public Works Engineering Intern, North Glengarry Township - Alexandria, ON June 2025 – August 2025

- Created **20+ maps on ArcGIS** of municipal infrastructure assets to assist maintenance and capital planning.
- Documented and verified **concrete quality** through slump and compaction testing, ensuring compliance with construction standards.
- Installed and replaced **traffic control devices** in accordance with Ontario Traffic Manuals (OTM) regulations to improve roadway safety.

EXTRACURRICULAR AND VOLUNTEERING EXPERIENCE

Co-Founder | Queen's Additive Manufacturing Team Sept 2025 - Present

- Established a new design team focused on advancing 3D printing and additive manufacturing applications at Queen's University.
- Oversaw technical direction, including project research, **CAD design** and **printer hardware integration** of a custom-built 3D printer

Project Manager (Electrical Systems | Queen's BioMechatronics Design Team Oct 2025 – Present

- Organized and managed project timelines, delegating tasks across sub-team to ensure milestones are met.
- Coordinate communication between executives, team leads, and faculty advisors to align technical progress with project goals.

Finance Executive | Queen's BioMechatronics Design Team Aug 2025 - Present

- Managed a **\$20,000+ annual team budget** by preparing financial plans, tracking expenditures, and coordinating sponsorships to fund projects and competition travel.
- Secured funding through **corporate sponsorships** and **university grants**, strengthening the team's financial sustainability