Gabriel Gebremedhn

+1 (825)-419-9287 | Hadgu@ualberta.ca | linkedin.com/in/gabrielgebremedhn | Alberta, Canada

EDUCATION

University of Alberta, Bachelor of Science in Electrical Engineering (B.Sc. EE) *Sep 2023 - May 2027*
Relevant Coursework: Embedded Systems, Electrical Circuits, Power Systems, Digital Logic Design, Microprocessors

TECHNICAL SKILLS

Programming Languages: C++, Python, Java, MatLab, Arduino **Applications:** Altium, LtSpice, AutoCad, KiCad, Microsoft-365
Hardware: Breadboarding, Circuit Design, Microcontroller Programming, Digital & Analog Electronics, Oscilloscope & Multimeter
Certifications: Class 5 Drivers License (Alberta)

RELEVANT EXPERIENCES

AlbertaHeart - Student Team Engineering a Total Artificial Heart **Edmonton, Alberta**
Electrical and Embedded Systems Member *Sep 2025 - Present*

- Contribute to the development of a student-designed Total Artificial Heart (TAH) by creating analog and digital control circuits that regulate core system functions.
- Execute bench-level testing and iterative debugging with oscilloscopes, measurement equipment, and simulation software to ensure high-confidence hardware performance.
- Implement closed-loop feedback controls to improve pumping accuracy, responsiveness, and long-term reliability of the device.

AlbertaSat- University Satellite Engineering Team **Edmonton, Alberta**
Power Systems Team Member *Jan 2025 - Sep 2025*

- Assisted in designing solar panel circuitry in Altium Designer as part of the power subsystem for a small satellite platform.
- Tested temperature and deployment sensors for the Electrical Power System (EPS), ensuring accuracy and reliability under environmental conditions.
- Contributed to the design and fabrication of Hyperion solar panels for Ex-Alta 3, assembling and testing panels to optimize power efficiency and reliability

University of Alberta Solar Car (USCC)- Student Electric Vehicle Engineering Team **Edmonton, Alberta**
Electrical Subsystem Team Member *Sept 2024 –Present*

- Conducted in-depth research on key power electronics, including battery management systems, power architecture, MPPT, and AC/DC charging infrastructure for a solar-powered electric vehicle.
- Evaluated technical specifications and industry standards to guide component selection, ensuring optimized energy efficiency and safety.
- Contribute to circuit design, subsystem integration, and performance modeling alongside the electrical team to improve overall vehicle power delivery.

PROJECTS

Mechanical Seven-Segment Counter *Jun 2025 – Present*

- Designed and built a mechanical seven-segment display using Arduino, servo motors, and C/C++, capable of counting numerals 1–10 with custom-coded logic.
- Programmed segment activation using PWM and digital I/O control to drive servos according to numeric patterns.

Aerial Robotics (Drone)
Jun 2025 – Present

- Developed and assembled a fully functional quadcopter using an Arduino Nano-based flight controller with MPU6050 motion sensor and integrated multi-sensor systems.
- Conducted full system testing to validate flight readiness, including motor performance, sensor calibration and wireless signal reliability

Additional Information

Languages: English (Native)
Completed Academic Terms: 4/8
Relocation Status: Willing to relocate
Availability: Starting Spring/Summer 2026 or January 2027
Completed Internship Terms: 0/3