

# Andrew Ngo

+1 289-654-7728 | [✉ andrewngo2021@gmail.com](mailto:andrewngo2021@gmail.com) | [in LinkedIn](#)

## EDUCATION

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### Carleton University

Expected April 2028

*Bachelor of Engineering, Electrical and Electronics Engineering, Co-op Program*

*Ottawa, ON*

- Awards, Achievements and GPA: President's Scholar, Sprott Bursary, 10.0/12.0 (A-)
- Relevant Coursework: Introduction to Electromagnetism and Wave Motion, Mechatronics, Circuits, Circuits and Signals, Switching Circuits, Imperative Programming, Electronics I, Electric Machines and Power, Object Oriented Software Development, Computer Organization, Calculus I, Multi-variable Calculus, Linear Algebra, Differential Equations, Mathematical Methods, Data Management

## EXPERIENCE

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### Electrical Sub Team

September 2025 - Present

*Ravens Racing Formula SAE*

*Ottawa, ON*

- Contributed in designing electrical systems for both Formula SAE **ICE** car and **EV** car by wiring, assembling, and troubleshooting different **analog and digital** components for optimized functionality
- Developed hands-on automotive electrical skills, including wire harness design and assembly, connector crimping, grounding strategies, and **HV/LV** safety procedures aligned with Formula SAE standards
- Collaborated closely with mechanical and software sub teams to drive seamless component integration and testing, following industry **automotive engineering workflows** encompassing requirements definition, detailed schematic reviews, safety inspections, and comprehensive validation and verification

### Pool Technician

April 2025 - June 2025

*Ottawa PoolWorks*

*Ottawa, ON*

- Supported over **100 clients** by delivering reliable, professional pool services, **communicating clearly** with clients, addressing questions or concerns, and building positive customer relationships
- Diagnosed and repaired pool systems including pumps, filters, and plumbing by **troubleshooting issues independently**, breaking down solution options to customers in an easy-to-understand manner
- Performed routine pool maintenance such as pressure washing, water testing, and equipment inspections, managing time effectively and maintaining attention to detail, consistently meeting service schedules

## PROJECTS

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### FSAE Airflow Bench | *Arduino, Raspberry Pi, RTOs, Sensors*

October 2025 - Present

- Designed and implemented an embedded multi-sensor data acquisition system for an airflow bench using **Arduino Mega**, integrating **8+** pressure and temperature sensors to validate and process real-time data, and stream measurements to an interactive **graphical user interface** display
- Prepared detailed **2D technical drawings**, bills of materials (**BOMs**), and project manufacturing documentation using standardized drafting practices while designing with modularity, scalability, and long-term adaptability in mind to support efficient electromechanical assembly and future revisions
- Integrated the low-voltage power distribution system, incorporating correctly rated **wire gauges**, **circuit breakers**, and isolated **switches** to provide stable, fault-tolerant power to all on-bench electronics and electromechanical loads, including the micro-electronics, display, and vacuum motor

## TECHNICAL SKILLS

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**Hardware:** Arduino, Raspberry Pi, FPGA, Analog & Digital Sensors, Servo Motor

**Programming Languages:** Python, Java, C/C++, MATLAB, Verilog HDL

**Software:** MATLAB/Simulink, LTspice, AutoCAD, Fusion 360, Multisim, VS Code

**Lab Tools:** Oscilloscope, Function Generator, Digital Multimeter, Power Supply, Breadboard