

Asad Warind

Mechanical Engineering and Mechatronics | Summer 2027 Co-op

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University of Waterloo | B.A.Sc. Honours Mechanical Engineering, Co-op | **GPA 3.9/4.0**

Mechanical design, electrical integration, and test automation experience across Formula Electric, battery validation, embedded actuation, and full-stack development.

Experience

Harbinger Motors - Battery Test Engineering Intern | Sep-Dec 2026

Integrated Arduino control, pneumatic actuation, sensors, and 10 Hz logging into an existing torsion fixture. Analyzed approximately 25 hours of unattended data; the prescribed profile totals 157,861 cycles. Localized isolation faults in two high-voltage battery modules.

Waterloo Formula Electric - Battery Mechanical Lead | Sep 2025-present

Responsible engineer for the accumulator container and mechanical lead of the battery system. Own container design and review supporting work across 5-6 members.

Novika - Engineering Intern | Jan-Apr 2026

Delivered 30+ full-stack features using React and TypeScript. Improved responsiveness by approximately 20% through Supabase query and data-storage changes.

Selected project highlights

2027 accumulator container - design in progress. SolidWorks sheet-metal enclosure with self-locating tab-and-slot features, improved segment clearances, and wall/weld hand calculations for 40 g longitudinal/lateral and 20 g vertical loads. FEA correlation and final validation remain ongoing.

HV cable routing - implemented. Evaluated routing and packaging constraints in SolidWorks, increasing HV-to-LV clearance by approximately 20%. The route was implemented on the car and used during competition.

Arduino pan-tilt system - built and tested. Integrated three servos with RC PWM input, signal smoothing, and travel limits. Achieved approximately 120 degrees horizontal and 30 degrees vertical motion, with approximately 90% less servo jitter.

Technical tools

Design and analysis: SolidWorks, AutoCAD, ANSYS, MATLAB, DFM/DFA, structural hand calculations.

Electrical and test: Arduino C++, LabVIEW, I2C, PWM, sensors, harnesses, DCIR/ACIR, HV diagnostics.

Programming and data: Python, Pandas, Matplotlib, Excel, React, TypeScript, SQL, Supabase, Git.

Internship interests

A four-month internship designing, building, and testing tangible products that combine mechanical design and electrical systems. Interests include mechatronics, robotics, batteries, energy storage, power electronics, embedded systems, and automation.

Locations: Ontario and British Columbia; California, Texas, and other U.S. technology hubs.