Aslan Lauzon

819-328-4452 | aslan.lauzon@queensu.ca | linkedin.com/in/aslanlauzon | aslanlauzon.ca

TECHNICAL SKILLS

Tools: GitHub, Docker, VS Code,SolidWorks, OpenCV, MasterCam, KiCad, Linux, ANSYS Workbench, ANSYS Fluent
Programming Languages: Python, MATLAB, C, C++, JavaScript, PHP, SQL, HTML, CSS
Machine Shop Skills:CNC Lathe Operations, MIG Welding, CAM Programming, Fixture Design
Awards: Lockheed Martin Engineering Award, Deans Scholar, Launch Canada: 2nd place Technology Development (2025), 3rd place Technology Development (2024)

EDUCATION

Queen's University   Kingston, ON
Bachelor of Applied Science in Engineering, Mechanical Engineering — Dean's Scholar   *September 2023 – Present*

EXPERIENCE

Chief Engineer, Advanced Rocketry Program   Sep 2023 – Present
Previously Propulsion Director, Queen's Engineering Rocketry Team   *Kingston, ON*

- Technical lead for a 120-person team, inventing Queen's first hybrid-engine propelled rocket
- As propulsion director, executed an award-winning hybrid-engine static-fire program on time and under budget, placing **2nd nationally** in Launch Canada's Technology Development category.
- Applied CAD, FEA, and thermofluids analysis (SolidWorks, ANSYS) to design a modular aluminum injector, using combustion research to optimize orifice layout, **increasing measured combustion efficiency by 32%**
- Designed and built a SolidWorks-modeled high-pressure gas panel for fill-to-fire rocket control with solenoids, and pneumatic actuators, Swagelok-assembled and used for 2.5+ years in 50+ hot-fire and cold-flow tests
- Developed safety-critical embedded control hardware in KiCad for an ESP32-based system with dual key-switch lockouts and solenoid drivers, ensuring reliable valve actuation and preventing accidental rocket engine ignition.
- Led safety and failure-review process for hybrid engine tests: authored Failure Mode and Effects Analysis, detailed test procedures, and hazard mitigations, and delivered safety briefings to team members and faculty.

Robotics Engineering Intern   May 2025 – Aug 2025
Lumentum   *Ottawa, ON*

- **Boosted optical bench assembly yield by a projected 15%** by doubling microliter-level epoxy dispense accuracy through designing and running UR3-robot experiments with custom OpenCV measurement tools alongside python statistical analysis to quantify effects and optimize manufacturing process.
- Wired and commissioned R&D robot stations from schematics; validated I/O, safety, and calibration.
- Enabled non-software teams to use internal automation tools and sped up R&D by porting machine-vision and collaborative-robotics libraries from C# to Python and writing clear, task-focused user documentation.

Research Student   Jan 2025 – May 2025
Queen's Fluid Dynamics Lab   *Kingston, ON*

- Applied fluid-dynamics theory to translate performance requirements into manufacturable hardware by designing a flow-conditioning stage for a pulsatile water tunnel that delivers uniform, low-turbulence inflow.

Engineering Intern   May 2024 – Aug 2024
Claigan Environmental   *Ottawa, ON*

- Drove the launch of one of the company's top-grossing programs **($1M+ annually)** by designing and implementing ISO 17025–compliant process systems for Environment Canada's Plastic Registry service, working with engineers and management, and interpreting government legislation.
- **Cut compliance review time by 20%** by developing Python and Google Apps Script tools to consolidate and analyze data for thousands of samples, automating rules to replace manual review and reduce errors.

Sunflower Tracking System Project   Sept. 2023 – Aug 2024
Technology Development Team   *Kingston, ON*

- Built an autonomous, PID-controlled machine vision system to track rockets during launch, **placing 3rd nationally** in Launch Canada's Technology Development category.
- Designed and iterated a low-cost, accurate 2-axis motion system with stepper motors and 3D-printed parts, improving positioning repeatability while keeping the design easy to prototype and modify.
- Selected to lecture at Launch Canada on control systems and machine vision applications