Eric Sass

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Education

Queen's University | Kingston, Canada
Graduation date: April 2025

- Bachelor of Applied Science, Mechanical Engineering – 3.1 GPA

Experience

Multimatic | Markham, Canada
September 2023 – August 2024

Design Engineering Intern

- Designed components using CATIA V5 and NX for Multimatic's Suspension and Mechanisms departments.
- Applied surfacing and solid body modelling techniques to design stamped, cast, forged, and plastic injection molded parts.
- Created and updated drawings/GD&T, maintained conformance with ASME Y14.5, conducted tolerance stack-up analyses.
- Coordinated prototype fabrication, testing, and analysis; validated designs using CAD-based structural analysis.
- Supported the design department: prepared presentations for design reviews, wrote DVP&R and DFMEA reports, created Excel calculators, processed and analyzed test data, processed and overlayed 3D scans to CAD.

Honda of Canada Mfg. | Alliston, Canada
May 2023 – August 2023

Product Engineering Intern

- Led Buzz/Squeak/Rattle (BSR) testing for interior components of Honda Civics and CRVs.
- Conducted root-cause analysis for interior components using multi-post stands, high/low-speed test tracks, collaborative robots, and environmental chambers. Configured sensors, analyzed data from accelerometers, microphones, and thermocouples.

Royal Military College | Kingston, Canada

Junior Researcher — *January 2023 – May 2023*

- Researched flow control techniques in aircraft engine S-ducts.
- Designed various test sections using Solidworks for 3D printing and testing in a transonic wind tunnel.

Research Assistant — *May 2022 – August 2022*

- Setup and independently operated a wind tunnel and DAQ systems to validate biology-inspired airfoils designed by the United States Airforce Research Laboratory (ARFL).
- Completed all required wind tunnel tests and compared performance to CFD predictions. Analyzed results using MATLAB and Excel. Delivered monthly presentations to supervising professors.

Queen's Formula SAE Design Team | Kingston, Canada
September 2021 – May 2023

Chassis/ Ergonomics Team Lead

- Led the successful design, analysis, and manufacturing of the vehicle's frame, carbon fiber seat, pedal box, engine mounts, and mounting systems.
- Designed parts using Solidworks based on rules, hand calculations, ergonomic considerations, and manufacturing capabilities.
- Trained and onboarded new team members, communicated with sponsors and third-party suppliers.

Projects

Thesis | Mechanical Simulation of Brain Compression for In-Vivo Testing
October 2024 – May 2025

- Collaborating with SickKids hospital to study the effects of mechanical pressure due to tumor growth.
- Performing CAE simulations in ANSYS Workbench to improve the design of a device used to apply compression to mice's brains.

Capstone | Vision – Based Intelligent Robotic System
September 2024 – May 2025

- Designed and implemented algorithms using Python to successfully parallel park the QCar, an autonomous scale model vehicle.
- Designing a similar platform from scratch for educators to use in comparable research environments.

Skills

- **Design**: CATIA V5, NX, Solidworks
- **Analysis**: ANSYS, Simulink, Statistical Process Control, Tolerance Stack-Up Analysis, Geomagic Studio
- **Programming**: Python, MATLAB, C++, LabView
- **Manufacturing**: CNC and manual machining, MIG/TIG welding, carpentry tools

Hobbies/ Interests

- Piano, volleyball, white-water canoeing, motorsport, military aviation, sustainable technology, machine learning.