

Joshua Block

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EDUCATION

Purdue University, School of Mechanical Engineering **West Lafayette, IN**
Master of Applied Science, Mechanical Engineering **Expected Graduation: May 2025**

Research Focus:

- Conducting Finite Element Modeling of high strain rates in composite materials.
- Developing surrogate models using machine learning.

Queen's University, Faculty of Engineering and Applied Science **Kingston, Canada**
Bachelor of Applied Science, Mechanical Engineering **Graduated: April 2023**

- First Class Honors (GPA: 3.77)

RELEVANT SKILLS

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- **Technical Skills:** Substantial experience using SolidWorks, Python, Matlab, and Ansys Mechanical APDL for analysis and design.
 - **Innovative/Creative:** Saved sales representatives over 200 hours annually by designing a program that generates essential documentation in a PDF format using spreadsheet data.
 - **Team Management and Leadership:** Co-founded an undergraduate electric vehicle design team during the pandemic and grew the team to over 50 active members.

PROFESSIONAL EXPERIENCE

Engineering Intern | Pliteq, Toronto, Canada **May 2022 – August 2022**

- Led the final phase of development for an AutoCAD plug in that automatically calculates the quantity of Pliteq's products required for a new building based on imported floorplans.
- Analyzed acoustical data to determine industry specific performance ratings and compliance with the International Building Code.
- Created a Python automation program that streamlines the process of uploading acoustical test data to a web database.

LEADERSHIP AND INVOLVEMENT

Team President | Queen's Relectric Car Team, Queen's University **January 2021 – May 2023**
(previously Powertrain & Battery Lead)

- Established an electric vehicle design team at Queen's University with the goal of making the conversion of a gas-powered vehicle to electric more sustainable and accessible.
- Used Solidworks and Ansys to design and optimize EV conversion accessories including motor mounting plates, shaft couplers, and transmission adapters.
- Led research teams to conduct in-depth technical analysis of EV systems while providing hands-on learning experiences working with vehicle components.

Chassis Design Engineer | Queen's Supermileage Team, Queen's University **September 2022 – April 2023**

- Designed and initiated building of a carbon fiber chassis to decrease the vehicle's energy consumption for the Shell Eco-marathon competition.
- Manufactured a carbon fiber base plate using a wet layup process to add stiffness to the vehicle's chassis.
- Conducted Failure Modes and Effects Analysis to identify and mitigate potential points of failure during competition.

Prototyping Lead | Queen's University (MECH 393) **January 2021 – April 2021**

- Designed a 3D printable computer mouse cover for an immunocompromised client that is compatible with their wrist brace and provides increased ergonomic support.
- Worked remotely with Occupational Therapists and the client to identify product requirements based on their work style and intended use.

ADDITIONAL EMPLOYMENT

Project Manager Teaching Assistant | Queen's University **September 2022 – April 2023**

Engineering Graphics Teaching Assistant | Queen's University **January 2022 – April 2022**

Health Research Assistant | University of British Columbia Faculty of Medicine **June 2020 – August 2021**