James Gullberg

(226) 503-6841
j.c.gullberg@queensu.ca
jcgullberg.github.io/projects
linkedin.com/in/j-gullberg

EXPERIENCE

Reactor Materials Testing Lab, Queen's University - Design Engineer Intern

Summer 2024

Designed and implemented a beam profile monitor actuator. Utilized Onshape to make CAD design and drawings. Incorporated several ESP32s to allow wireless communication between the control and accelerator room.

Improved a previous design of a cold trap, redesigned to use minimal number of new parts. Decreased surface temperatures from -15 to -25 degrees Celsius and increased vapor collection capabilities.

Queen's Aerospace Design Team - Aerostructures Manager

June 2024 - Present

Leading a team of general members to design and fabricate a full carbon fiber VTOL UAV, using advanced lay-up techniques, a waterjet cut internal structure, 3D printing and rigorous testing with simulations to achieve maximum performance.

Queen's QVEX Robotics Team - Director of Mechanical

2024 - Present

Oversaw the development and design of two fully custom robots for the VEXU robotics competition. Coordinated with Directors of Electrical and Software, delegated subsystems to Project Leads and ensured designs integrated seamlessly and aligned with project goals.

Lead the design for the differential swerve-drive drive base and several other subsystems.

Starting a 3D printing and design business

March 2022 - August 2023

Used Onshape to make custom products for clients as well as original designs. Utilized FDM 3D printing for fabrication. Sold products on Etsy and Facebook and marketed through Tik Tok, Reddit, and several Meta platforms. Generating over $13K in sales.

Queen's Space Engineering Team - General Member

October 2023 - May 2024

Utilized Solidworks to design a differential bar for a rover, and fabricated it from 3d printed and composite parts.

Projects

SKILLS

5 years experience with CAD software such as **Solidworks**, **Onshape** and **Fusion 360**, implementing **DFM/DFA** principles and **FEA analysis**.

4 years experience in **3d printing**.

4 years coding experience with **Java**, **C**, **Python**, and **Arduino**.

Fluent in **Mandarin Chinese**.

Proficient in Microsoft **Word** & **Excel**

EDUCATION

BASc In Mechatronics Engineering - 2027

Queen's University, Kingston, ON

4.0 culminating GPA with distinction of **Dean's Scholar**

AWARDS

NSERC - USRA Recipient 2024

Queen's Engineering Competition 2023 - 2nd Place

Queen's University Engineering Sustainable Solutions & Technologies Competition 2023 - 2nd Place