

# SAIF QURESHI

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Incoming Mechanical Engineering graduate ready to contribute across design, stress, & testing teams within the system development life cycle. Experienced in manufacturing support, failure analysis, and documenting technical requirements.

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## WORK EXPERIENCE

### **BOMBARDIER AEROSPACE – ADVANCED STRUCTURES CONCEPTUAL DESIGN INTERN** **MAY 2025 – DEC 2025**

- Improved a composite materials mechanical test results database (C#, ASP.NET) used to store coupon data for engineering reference, enhancing data organization and documentation to facilitate material selection, quality control criteria development, and preliminary design value estimation for composite structures.
- Developed and structured new communication sites to streamline knowledge capture, sharing and tool documentation for the engineering stress and design communities across the organization.

### **PRATT AND WHITNEY CANADA – PROCESS IMPROVEMENT INTERN** **MAY 2023 – AUG 2023**

- Integrated processes to facilitate business jet scheduled & unscheduled maintenance (engine overhaul, hot section inspections) by using Lean Six Sigma, PowerBI and Google analytics data and other process improvement strategies.
- Directed changes in the Eagle Service Plan while coordinating with global departments & raised usage by 20%.
- Analyzed 40% of line items in credit position of maintenance facilities & built solutions to improve their documentation

### **LIGHTHOUSE META TECHNOLOGIES – MANUFACTURING DESIGN INTERN** **MAY 2024 – AUG 2024**

- Spearheaded manufacturing with 40+ suppliers ensuring MOQs and CPUs for designs aligned with requirements.
- Optimized materials & production to give estimates for ~6000 designs on Off/script app from start to end user.
- Performed 3D printing drawings and slicing for product designs, presenting cost & alignment reports to management.

### **MCGILL ROCKET TEAM – COMPOSITES MANUFACTURING & TESTING LEAD** **SEP 2022 – JULY 2024**

- Developed new PREPREG and Forged Carbon process for high-quality composite parts by testing ideal curing cycles on RAVEN and prototyping CNC machined molds to improve part durability and reduced manufacturing time by 25%.
- Spearheaded production of fuselage and static & vibration tests and documented structural performance results to suggest improvements for validating part integrity and durability of the airframe before flight.
- Led a 50-member team performing CFD optimization & aerodynamic redesign (e.g., cone profile & fastener geometry).

### **MCGILL INSTITUTE FOR AEROSPACE ENGINEERING – PRESIDENT** **APRIL 2025 – PRESENT**

- Led development of industry-sponsored technical programs and events with Airbus, Bombardier, and Pratt & Whitney, creating applied engineering challenges for 800+ students focused on aircraft systems, aerodynamics, and controls.
- Architected a Fly-By-Wire experimental challenge replicating scaled Airbus A220 flight conditions and a CFD-based Challenge with Ansys, enabling students to perform simulations, analyze results and present them to Airbus engineers.

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**EDUCATION: BACHELOR OF MECHANICAL ENGINEERING, COOP PROGRAM** **AUG 2022 – APR 2026**  
McGill University, Montreal, Canada, Hugh Brock Scholarship for Leadership and Academic Excellence: \$20,000

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## AEROSPACE ENGINEERING PROJECTS

- **Auxiliary Aircraft Gearbox Design:** Led preliminary design of an auxiliary transmission for a PT6A-42 turboprop, reducing 15,000 rpm turbine output to 1,000 rpm propeller speed. Performed AGMA gear sizing, shaft and bearing load analysis, fatigue and safety factor calculations, and developed a full SolidWorks assembly to meet aerospace performance and durability requirements.
- **Dynamic Response Characterization of Appliances Using Laser Vibrometry:** Conducted vibration testing on appliances using a Laser Doppler Vibrometer to characterize motor-induced vibrations under various speed and loading conditions. Provided solutions achieving reduced vibration transmission to handles & improved user comfort.

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**SKILLS AND SOFTWARE:** SolidWorks, Siemens NX, NASTRAN, CATIA, Fortran, SAP, MasterCAM (CNC), Microsoft Suite, Ansys Fluent, Abaqus, SVN, Python, C#, C++, MATLAB, GSuite, 3D Printing, Sharepoint, PowerBI, SQL, Enovia PLM

**Languages:** English (Fluent), French (Fluent)

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