GRIFFIN MCLEAN

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Work Experience

Automation Process Engineer / Trane Technologies plc — *June 2024 - Present*

- Lead engineer in the process development, procurement, and landing of a semi-autonomous five-station work cell featuring **augmented reality work instructions** and **FANUC collaborative robots**
- Co-engineering lead of **$750,000** project to develop and land a 14-station **SEW motor** driven line that utilizes **Keyence vision** systems for quality inspection to improve throughput and cycle time
- Developing enterprise-wide standards for smart torque tooling including model use cases, communication protocols, and controller program architecture through research and testing

Maintenance Engineer (Co-op) / Tesla Inc. — *Jan 2022 – Aug 2022 & May 2023 – Aug 2023*

- Conducted preventive maintenance planning, training, and implementation in addition to recovering and troubleshooting several different **FANUC** robotic cells as well as **Allen Bradley** and **Rockwell PLCs**
- Led the design, procurement, performance metrics analysis, and implementation of an engineering change request that resulted in **saving Tesla $529,312.00 (678 minutes of downtime)** annually
- Created and discussed designs with both in-house and outsourced machinists for rapid development

Automation Engineer and Project Lead (Co-op) / ATG Pharma Inc. — *Sep 2020 – May 2021*

- Technical lead of a six-person team of engineers and machinists for the top-down design, prototyping, and manufacturing of an automated packing/filling product valued at **$55,000/unit**
- Implemented **Autodesk Vault**, a CAD data management software, across ATG Pharma, and created and led training sessions to ensure a streamlined process from design to production
- Used **SolidWorks** and **Autodesk Inventor** to conduct **finite element analyses** and **thermal analyses**

Vehicle Test Engineer (Intern) / Vitesco Technologies — *May 2020 – Sep 2020*

- Planned, designed, and executed **test cycles** to determine if performance goals were being met
- Simulated and assessed hysteresis data with **CATIA V5** to predict and report part failure causes

Materials Research Assistant (Intern) / Grandfield Research Group — *May 2019 – Sep 2019*

- Designed and wrote **MATLAB** code to streamline parameter selection for a manufacturing process

Projects & Extracurricular

Drivetrain Captain / Baja SAE Racing (McMaster University) — *Sep 2018 – 2024*

- Responsible for the design, manufacturing, and procurement of an off-road **drivetrain system**

Captain & Organizer / McMaster Engineering Ice Hockey Teams — *Sep 2018 – 2024*

- Led, managed, and operated finances for two intramural league ice hockey teams (20 players per team)

Education

B.Eng Mechanical Engineering (3.9 GPA) / McMaster University — *Sep 2018 – Apr 2024*

- Scholarships: Undergraduate Student Research Award, President's Award, Dean's Excellence Award

Skills

Software/Hardware: Allen Bradley Control Logix, Rockwell RSLogix5000, FANUC R-30iB Plus Controller, CATIA V5, Autodesk Inventor, SolidWorks, Autodesk Netfabb, Python, MATLAB

Manufacturing: CNC 5 axis mill, manual lathe and 3 axis mill, MIG welding, selective laser melting