Jaffer Razavi

(647) 764-9586 | jhrazavi@uwaterloo.ca | linkedin.com/in/j.afferr | github.com/J-992

Education

University of Waterloo — Waterloo, ON
Mechanical Engineering, Honours, Co-operative Program, Bachelors of Applied Sciences (BASc) — *2022 – 2027*

Technical Skills

Mechanical: Machine shop, ASME B31.1, CSA N289, Arduino, Vehicle maintenance (2+ years)
Programming Languages: Java (UI/UX), Python, C++, React, SQL
Softwares: NX, SolidWorks, AutoCAD (Dimensioning, GD&T), Microsoft Suite, Adobe Creative Cloud, LabVIEW
Developer Tools: Jupyter Notebook, VS Code, PyCharm, IntelliJ

Experience

Nuclear Engineering Intern — September 2023 – December 2023
Framatome — *Kincardine, ON*

- Developed inventory software using **Python** and Visual Basic with Microsoft Access SQL databases, achieving over $70,000 in cost savings and enhancing inventory reliability by 50%.
- Refactored & documented **Python algorithms** for accurate Yb-176 target counting, preventing potential losses of $50,000 per miscount due to calculation errors.
- Assessed Isotope Production System (IPS) feasibility for Pressurized Water Reactors, using **SolidWorks** for prototype designs and engaging in design reviews for a 50x potential increase in market reach and profitability.
- Standardized training documents & procedures for IPS maintenance, focusing on **worker safety** and efficiency, significantly increasing risk mitigation and operational knowledge.

SDI Team Member — May 2023 – Present
UWAFT EcoCar Design Team - Y1 — *Waterloo, ON*

- Designed components in **Siemens NX** including a bottom mounted anti-roll bar, OS2 LiDAR mount, and a rear subframe assembly jig.
- Conducted feasibility studies for a bottom mounted anti-roll bar and HV fuse specifications.
- Part of team modifying 2023 Cadillac Lyriq EV to optimize electric powertrain & implement autonomy.

Production Technician Intern — January 2023 – April 2023
F&P Manufacturing Inc. — *Tottenham, ON*

- Oversaw change management and knowledge transfer for new team members, developing 5 comprehensive learning documents, which accelerated team member onboarding by 50%.
- Executed rigorous tests for quality measure procedures by ensuring that all machines were functioning optimally to minimize downtime and improve efficiency by 15%.
- Maintained 5 records daily of production output, inventory, and machine maintenance, providing valuable data for analysis.

Projects

Pen Plotter Robot | *SolidWorks, C++, RobotC, JavaScript* — May 2023 – August 2023

- Designed and developed a drawing robot with an integrated UI, utilizing **SolidWorks** and **C++**.
- Fabricated custom 3D-printed, laser-cut, and machined parts to seamlessly integrate mechanical and software components.
- Developed and fine-tuned a closed-loop control system in C, achieving precise plotting with millimeter-level accuracy.

EMG Prosthetic Arm | *Python, C++, Arduino, SolidWorks* — November 2023 – Present

- Developing an **EMG prosthetic arm** tailored for users with limb loss.
- Utilizing Python and SolidWorks to create, test, and iterate on prototype designs.
- Conducting research to identify and incorporate the latest advancements in prosthetic technology into the project.

Toyota Innovation Challenge | *Python, Machine Learning* — October 2022

- Developed a Python program to track and classify the real-time position of vehicle parts on a conveyor belt using a live Astra camera feed.
- Integrated position tracking into the program to accurately output the distance traveled by the vehicle.