Reneece Ragbir

(519) 580 - 5381 rragbir@uwaterloo.ca linkedin.com/in/reneeceragbir

Technical Skills

Tools: SolidWorks, AutoCAD, Ansys Granta, Microsoft Office Suite, Epilog Laser, Prusa 3D printer.
Programming Languages: Pascal, MatLAB, Arduino, Python, LaTeX and C++.
Machining Experience: Proficient in manufacturing high tolerance parts from technical drawings using various materials.

Work Experience

Waterloo Engineering Endowment Fund Aug 2023 -Dec 2023
Senior Engineering Teaching Assistant *Waterloo, ON*

- Provided technical support and facilitated course delivery for technical drawing, SolidWorks and AutoCAD.
- Applied analytical and leadership skills to optimize scheduling, information flow and morale for a 50-person team.

University of Waterloo Engineering Ideas Clinic Jan 2023 - Apr 2023
Research Assistant Co-op *Waterloo, ON*

- Designed and manufactured materials testing devices using 3D printing, laser cutting and machining.
- Initiated and led an MME syllabus review to incorporate industry-focused skills, FEA analysis and motion studies.
- Tested and fine-tuned PLC conveyor belts for the Toyota Manufacturing Project.

Skyjack Inc. May 2022 - Aug 2022
Materials Engineer Co-op *Guelph, ON*

- Consolidated data and developed a weld replenishment train using DraftSight and ManuX to improve efficiency.
- Adapted to multiple service tasks including logistics for two facilities and international client consultation.
- Assumed additional roles by supporting managers with employee training, glide path analysis and raw WIP data while spearheading the development of manuals and process alerts to reduce training periods by 40%.

Hevi-Quip Company Ltd Jan 2021 - Mar 2021, Sep 2021 - Dec 2021
Maintenance Assistant Co-op *Trinidad and Tobago, W.I.*

- Developed organization system for equipment and maintenance records which increased operational efficiency.

Projects

UW Formula Electric | *Machining and Manufacturing* Jan 2023 - current

- Machined precision parts to enhance the suspension of the Formula Electric car.

Manufacturing Process Analysis | *Ansys Granta* May 2023 - Aug 2023

- Conducted micro-structure analysis and Eco-audits of competitor's machine to improve material selection and manufacture of products while reducing production costs and increasing durability.

Vehicular Dynamics Simulation | *MATLAB* May 2023 - Aug 2023

- Evaluated car dynamics using MATLAB and differential equation modelling to analyze yaw rate, lateral acceleration and stability at various speeds and steering conditions for Formula Motorsports.
- Performed performance enhancement study for tuning parameters, tire stiffness and weight reduction.

Fluid Mechanics Flow Prediction | *MATLAB* May 2023 - Aug 2023

- Developed and tested a fluid drainage time model using MATLAB with 85.2% accuracy, conducted an in-depth analysis of theoretical systems, and presented key trends to optimize performance

Pick and Place Robot | *Programmable Logic Controller* Sep 2022 - Dec 2022

- Designed state and ladder logic diagrams for a PLC program to transport items to precise coordinates.

Video Game Design | *C++* Jan 2021 - Apr 2021

- Utilized C++ to develop a video game and integrated self-taught strategies to implement 4 modes of difficulty.

Design Project – Adjustable Standing Desk | *SolidWorks* Sep 2020 - Dec 2020

- Engineered a remote work solution through design ideation, CAD modelling, and material selection achieving an 86.7% consumer satisfaction and successfully documented and presented progress to supervisors.

Education

University of Waterloo Sep 2020 – Apr 2025
Bachelor of Applied Science - Mechanical Engineering (Honours Co-op) *Waterloo, ON*