Marcus Reuss

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Education

University of Guelph Guelph, ON

College of Engineering and Physical Sciences Sept. 2020 – Apr. 2025

Bachelor of Engineering in Mechanical Engineering

Relevant Coursework: Computer Aided Design and Manufacturing, Finite Element Analysis, Machine Design, Applied Fluids and Thermodynamics, Systems and Control Theory

Tools & Software: SolidWorks, OnShape, Ansys Mechanical, AutoCAD, MATLAB, Excel

Work Experience

FIO Automation Canada Corporation Stratford, ON

Engineering Production Specialist Co-Op **Jan. 2023 – Sept. 2023**

- Lead a cost cutting initiative to reduce weld electrodes on spot welders, actively reducing annual costs of the electrodes by $61,287.48 with total projected savings of $86,961.38.
- Utilized rapid prototyping to design and install critical modification to a cell due to changing customer design requirements, saving $81,508.72 of employee downtime annually.
- Modified fixtures to follow poka-yoke, ensuring issues fixtures operate as intended using CMOS laser sensors, NIMFE magnetic field sensors, and PNP induction switches.
- Planned and designed plant layout for upcoming product launches in AutoCAD that improved cycle time efficiency of cells by 24%.

Ascension Automation Solutions Cambridge, ON

Mechanical Design Engineering Co-Op **April. 2024 – Dec. 2024**

- Wrote and formalized the section in the Standard Operating Procedure regarding engineering drawings that ensures legibility and uniformity between authors.
- Utilized a design for machinability and design for assembly approach when designing and overseeing the manufacturing of custom-made manufacturing cells and tooling.
- Designed modifications for preexisting machinery and tools to ensure compliance with CSA Z432:23; safeguarding machinery, and CWB welding guidelines.

Projects

HackerFab UW Waterloo, ON

Sputter Team Lead **Aug. 2024 – Present**

- Responsible for the mechanical design and integration of high voltage electrical systems into a custom-made vacuum chamber.
- DC sputter chamber used for thin film deposition was planned, designed, assembled, and tested within 8 months for under $1200 CAD.
- Visited the original HackerFab lab at Carnegie Mellon University in Pittsburgh, PA to learn about and fabricate MOSFETs
- Co-taught a small group of University of Waterloo engineering students in learning about mechanical design and the semiconductor fabrication.
- Presented HackerFab UW's story and live demonstration of our tooling in front of a 2500-person audience at Socratica Symposium 2025