

Oluwalonimi Ajayi

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Education

University of Manitoba | Winnipeg, MB

Expected May 2025

Bachelor of Science in Mechanical Engineering- Co-op/IIP Option

Experience

Elmer's Manufacturing

May 2023 – December 2023

Manufacturing Engineer (Student)

Altona, MB

- Revamped a paint-line fixture for harrow sections with a boltless design and aligned the fixture rotation axis with the section center of gravity, leading to a 30% and 87% reduction in assembly and dismantle time respectively
- Generated 3D models of a cobot, small scale robots and a FANUC dual arm welding robot, including their anticipated shop area, to assess environmental interactions and validate proper selection prior to procurement
- Designed, built and tested a custom brake tool to bend metal brackets(4000+) that were outsourced, in-house
- Redesigned two mobile storage racks with Autodesk Inventor, cutting the average cost and weight by 42% and 15% respectively while maintaining the necessary payload using FEA and hand calculations to validate analysis
- Developed new balance weight procedure for auger flighting using scrap material, aiming to reduce costs by 95%
- In charge of testing thread locker application methods to assess breakaway torque and assembly efficiency
- Created design specifications by contacting stakeholders and maintained constant communication to ensure that the final product meets all specifications while adhering to company safety and quality standards
- Drafted 120+ engineering drawings for 80+ parts and 30+ weldments which included BOMs and welding instructions

Extracurriculars & Projects

University of Manitoba SAE Baja Manufacturing Lead

January 2024 – Present

- Managed the manufacturing of 200+ metal parts in a team of 30+ student engineers
- Reviewed DFM/A across various sections and gave feedback to enhance manufacturing quality and speed

University of Manitoba SAE Baja Testing Lead

June 2023 – Present

- Organized system/component testing for all sections of the vehicle to gather data for loading conditions, validate analysis, measure progress and properly tune all off the shelf parts for the vehicle
- Conducted analysis on various permanent and non-permanent joints and their weight to stiffness ratio to aid the team in the set goal to drop the car weight by 15%
- Worked with sponsors and industry partners to design, adapt and source testing equipment
- Ensured that design decisions were driven by a quantifiable metric derived from real world testing

University of Manitoba SAE Baja Powertrain Co-lead

July 2022 – June 2023

- Co-led a sub team in a 40-member organization to secure 24th place among 86 universities, in the 4-hour endurance race by designing a Powertrain system capable of surviving rugged conditions
- Designed battery mounts and safety guards for all rotating components using SolidWorks, sheet metal and 3D printed parts to ensure the safety of the driver and anyone working on the car
- Created design review slides to communicate technical details and project progress to engineering advisors and judges
- Organized weekly meeting to ensure that all section members were assigned tasks and kept up to date

Other Personal projects

- Designed a camera/tripod attachment that uses computer vision to automate the movement of the camera's yaw
- Improved solar panel cleaning drone design through FEA analysis for enhanced performance and reliability
- Collaborated in a 3-member team to code a PLC to stamp specific pucks with limited sensors using ladder logic

Skills

CAE: SolidWorks, CATIA V6, AutoCAD, Autodesk Inventor Pro., MATLAB, Python, Arduino, ANSYS, Simulink

Manufacturing: Machining (Lathes, Brake, Hand Tools, Mill), 3D printing, Sheet Metal, Laser cutting, MIG welding

Other Technical Knowledge: PLC, Design for Manufacturing and Assembly, Topology Optimization, GD&T