Danish Tiro Galebotswe

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EDUCATION

Northwestern University; Evanston, Il *Anticipated graduation: 2026*
Bachelor of Science in **Mechanical Engineering**
GPA: 3.85/4.0
Relevant Coursework: Manufacturing Processes, Material Selection, Scientific and Embedded Programming, Mechanical, and Electrical Dynamic Systems, Human-Centered Design, Fluid Mechanics

SKILLS

Technical Skills: NX Siemens & Fusion 360 Computer-Aided Manufacturing (CAM), NX & Solidworks Finite Element Analysis (FEA), Ansys & Star CCM+ Computational Fluid Dynamics (CFD), MATLAB, NX & SolidWorks Computer-Aided Design (CAD), Python, Microsoft Office Programs.
Construction: Carbon fiber layup, Mold-making**,** CNC Mill, CNC Router, Lathe, Laser Cutter, Metalworking

WORK EXPERIENCE

Asahi Kasei Bioprocess America, Glenview, IL *June 2024 - September 2024*
Engineering Intern

- Assembled standard parts of fabricated and purchased parts using **Solidworks CAD** into Solidworks **PDM.**
- Improved the hydraulic priming process of the hydraulic cylinders used in the ergonomic frames to reduce assembly time **from 2hrs for expert assembly technician to 45 min for amateur assembly technician**.
- Tested various methods of priming the cylinders using bypass Swagelok Ball valves, elbow union fittings and hoses.

Asahi Kasei Bioprocess America, Glenview, IL *June 2023 - September 2023*
Engineering Intern

- Learned how to make and read **Piping and Instrumentation Diagrams** (P&IDs), **Electrical Drawings**, and **General Arrangement Drawings**.
- Made **engineering drawings** for fabricated parts using **Solidworks** to be sent out to the machine shops for manufacturing.
- Assisted with **Factory Acceptance Testing**, **internal validation** and **quality control**.

LEADERSHIP EXPERIENCE

Northwestern Formula Racing SAE, Evanston, IL *June 2024 - Present*
Aerodynamics Lead

- Leading a team of eight (8) members to design and build an aerodynamics package for Formula Student Car going to competition next year.
- Researching the different and better manufacturing techniques for Carbon fiber curing and also the material to be used for molds to reduce the time taken for manufacturing by **25 %**.

PROJECT EXPERIENCE

Northwestern Formula Racing SAE, Evanston, IL *June 2023 - June 2024*
Rear Wing Design Engineer

- Collaborated in a team of three (3) people to design and manufacture a new rear wing according to the new 2024 FSAE regulations.
- Completed **over 60 hours of prepreg** carbon fiber layups, **20 hours of wet layup** carbon fiber work, and 75 hours of mold-making and mold surface preparation.
- Conducted Finite Element Analysis (FEA) for various aero forces and side force load cases on rear wing mounting, achieving a design with a **safety factor of 1.5+**.