SOHAM DESAI

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EDUCATION

Bachelor of Engineering – Mechanical Engineering & Co-op *Expected May 2027*
Ontario Tech University *Oshawa, Ontario, Canada*
Awards: President's List | Dean's List
Relevant Coursework: Engineering Design | Fluid Mechanics | Dynamics | Solid Mechanics I & II | Control Systems | Kinematics & Dynamics of Machines | Machine Design | Thermodynamic I & II | Computational Engineering Applications

WORK EXPERIENCE

APQP Engineering Co-op *April 2025 – August 2025*
Multimatic Dynamic Suspension *East Gwillimbury, Ontario*

- Served as the primary liaison between program managers, process engineers, and production staff to coordinate prototype builds, design revisions, build schedules, and shipment timelines, contributing to the successful launch of multiple Ford and GM suspension programs.
- Designed a standalone greasing station in SolidWorks alongside process engineers, generating detail drawings and a bill of materials to automate a manual process and standardize grease application across production.
- Engineered a packaging solution for GM's C1XX control arm in SolidWorks, optimizing part orientation and carton layout to maximize space utilization, protect components, and streamline logistics for production shipments.
- Managed planning and execution of prototype and non-production builds and shipments under strict deadlines, achieving 100% on-time delivery while maintaining customer-specific packaging and documentation standards.
- Designed and deployed a custom APQP inventory management application to track 100+ prototype parts, integrating automatic label generation and scrap reporting, reducing manual errors and improving traceability across production teams.

Engineering Intern *June 2024 – August 2024*
F and B Solutions Limited *Kampala, Uganda*

- Designed a detailed Excel tracking system and standardized labeling protocols for 100+ spare parts, reducing misplacement incidents and improving repair response times for the maintenance team.
- Collaborated with technicians to systematically diagnose and resolve mechanical malfunctions, achieving 95% adherence to repair schedules and significantly reducing downtime.

Research Assistant Intern *May 2024 – June 2024*
Ontario Tech University *Oshawa, Ontario*

- Partnered with 3 graduate students to design 50+ technical diagrams and author content for a textbook on Battery Management Systems, producing educational resources supporting undergraduate engineering curriculum.

PROJECT EXPERIENCE

All-Terrain Prosthetic Ankle–Foot System Link *November 2025*

- Designed a mechanical prosthetic ankle-foot with two degrees of freedom using Siemens NX to improve stability on uneven terrain, incorporating biomechanical principles to guide joint range of motion.
- Performed finite element analysis (FEA) to validate component strength and stress distribution under realistic body weight loads, identifying and resolving failure points to improve overall durability.
- Built and tested a functional prototype using 3D-printed materials (PETG, PLA, Rigid 4000), conducted design optimization and cost analysis to achieve a manufacturable, low-cost solution for large-scale production.

Scissor Lift Design Link *February 2024*

- Modeled a full 3D SolidWorks assembly with 400+ unique components, prioritizing ease of assembly and portability.
- Generated detailed engineering drawings with dimensions, tolerances, and assembly instructions; developed motion simulations to validate extension and retraction performance.
- Presented the complete assembly, drawings, and simulations to course instructors, effectively communicating design decisions and demonstrating manufacturability.

EXTRACURRICULAR ACTIVITIES

Drivetrain & Braking Department – Team Member *September 2025 – Present*
Ontario Tech Racing (Formula SAE Electric) *Oshawa, Ontario*

- Developed and validated drivetrain simulation models (point-mass and two-track) and conducted trade-off analyses on braking load transfer, tire traction, and aerodynamic forces to optimize vehicle performance under Formula SAE Electric regulations.
- Designed a catch can system in Siemens NX for a Formula SAE Electric vehicle, modeling fluid routing and mounting geometry to meet competition regulations.

SKILLS & CERTIFICATIONS

Technical Skills: SolidWorks | Siemens NX | Fusion 360 | AutoCAD | MATLAB | Python | C++ | Multisim | 3D Printing | Microsoft Office
Certifications: SolidWorks Design Associate (CSWA) | Advanced Manufacturing | WHMIS | ISO 9001 | ISO 14001