

SAHIL DESAI

Mechanical Engineering Student | CAD & Product Design | Manufacturing | Prototyping

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PROFESSIONAL SUMMARY

Mechanical Engineering student (7th semester) focused on CAD design, manufacturing, and product development. Proficient in CATIA V5, SolidWorks, Fusion 360, and AutoCAD for concept-to-prototype design work, with hands-on experience in 3D printing, CNC machining, and reverse engineering. Built and tested a working piezoelectric energy-harvesting prototype end-to-end, from circuit design through sensor optimization. Strong foundry and manufacturing-floor exposure from a hands-on internship. Seeking a design or manufacturing engineering role to apply CAD and prototyping skills to real-world products.

CORE SKILLS

- **Design & CAD Modelling:** CATIA V5, SolidWorks, Fusion 360, AutoCAD
- **Manufacturing & Fabrication:** 3D Printing, CNC Machining, Reverse Engineering, Foundry & Casting Operations
- **Product Development:** Prototyping, Sensor Integration, Basic Circuit Design, Design Optimization
- **Programming & Analysis:** Python (basic), MATLAB (basic), Microsoft Excel
- **Professional Skills:** Problem-Solving, Teamwork, Communication, Leadership, Project Management

PROJECTS

Vibration Energy Harvesting System Using Piezoelectric Materials

Minor Project — Mechanical Engineering, Gogte Institute of Technology

- Designed and developed a system to convert mechanical vibrations into electrical energy using piezoelectric sensors.
- Built and tested a working prototype to generate power from ambient vibrations.
- Developed basic circuit design for energy conversion and storage.
- Optimized sensor placement to improve energy output and system efficiency.

Electrochemical Performance Optimization of SPD-Processed Al–Graphene Composites for Aluminium-Ion Battery Applications

Ongoing

Major Project — Mechanical Engineering, Gogte Institute of Technology

- Studying the electrochemical performance of SPD-processed aluminium–graphene composite electrodes for aluminium-ion battery applications.
- Investigating the effect of processing conditions and graphene incorporation on electrochemical behaviour and energy-storage performance.
- Conducting electrochemical characterization and related battery testing techniques.
- Analyzing charge/discharge behaviour, cycling stability, capacity, and Coulombic efficiency of prepared specimens.

INTERNSHIP EXPERIENCE

Foundry & Manufacturing Intern — Belgaum Ferrocast (India) Pvt. Ltd., Machhe

Jul 2025 – Aug 2025

- Gained hands-on manufacturing-floor experience in foundry operations, moulding, and casting processes.
- Developed an Excel-based tracking system for shift-wise machine efficiency, enabling performance monitoring and supporting data-driven decision-making.

CERTIFICATIONS

- NPTEL – Fundamentals of Artificial Intelligence, IIT Guwahati
- NPTEL – Introduction to Internet of Things, IIT Kharagpur
- Additive Manufacturing (3D Printing) and Reverse Engineering
- Robotics
- Dassault Systèmes 3DEXPERIENCE
- Artificial Intelligence

EDUCATION

Bachelor of Engineering (B.E.) in Mechanical Engineering

Gogte Institute of Technology, Belagavi, Karnataka

ACHIEVEMENTS & VOLUNTEERING

- Finalist — Speed Modelling, ASME EFX National-Level Tech Fest.
- Student Volunteer, Avalanche 2025, KLS GIT.
- Student Volunteer, AURA 2024 (Photography Club), KLS GIT.