SUSHIR GOPAL VIJAY

B.Tech. - Mechanical Engineering

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PROFESSIONAL SUMMARY

B.Tech Mechanical Engineering Graduate with a solid foundation in core engineering principles and hands-on project experience. Proficient in CAD ,Catia,Ansysand CAE tools, with a focus on applying analytical and problem-solving skills to mechanical systems. Eager to contribute to engineering operations through practical, data-driven approaches and innovative solutions."

KEY EXPERTISE

CATIAV5 | SCM | SAP MM | Finite Element Analysis | Autocad 2D | CAE | Design and Analysis of Thermal and Structural Elements | Manufacturing Technology | Sustainability and Environmental Studies | Good Communication skills | Industrial Engineering and Measurement

EDUCATION

MIT Academy of Engineering, Pune — 2022 - 2026

B.Tech. - Mechanical Engineering | CGPA: **8.30** / **10**

Government Polytechnic Khamgaon, Khamgaon — 2023

Diploma | Diploma - Mechanical engineering | MSBTE | Percentage: **77.13** / **100**

J V Mehta Navyug Vidyaylay Khamgoan, Pune — 2020

10th | MSBSHSE | Percentage: **84** / **100**

INTERNSHIPS

eduskills Foundation .Org | Academics / Research — 01 Jan, 2025 - 01 Mar, 2025

Static Structural Analysis

Key Skills: Strong foundation on machine Design | Engg Measurement | Strenght of Material | Engginering Drawing

Completed a virtual internship focused on Static Structural Analysis using ANSYS Mechanical. Developed skills in performing structural simulations to analyze stress, strain, and deformation in mechanical components. Learned to define geometry, assign material properties, apply boundary conditions and loads, and interpret simulation results. Worked on practical problems such as beam deflection, pressure vessel analysis, and structural loading conditions. This internship helped me understand how mechanical structures behave under different loading conditions and how simulation tools are used in real-world engineering design and analysis.

Eduskills foundation .org | E-Learning / Edtech — 01 Jul, 2024 - 01 Sep, 2024

Ansys Fluid dynamics

Key Skills: nternal & External Flow Simulations | CFD Simulation Setup | Heat Transfer Simulation | Fluid Flow Analysis

Completed a virtual internship focused on Computational Fluid Dynamics (CFD) using ANSYS Fluent. Gained hands-on experience in simulating real-world fluid flow and heat transfer problems. Learned how to set up and solve fluid dynamics cases, including geometry creation, meshing, boundary condition setup, solver configuration, and result interpretation. Worked on simulations involving laminar and turbulent flows, internal pipe flow, external aerodynamics, and heat exchanger analysis. The internship enhanced my understanding of fluid mechanics, numerical methods, and the application of CFD tools in solving engineering problems.

Vikasmhi fabrics pvt ltd | Manufacturing / Core — 01 Aug, 2022 - 25 Sep, 2022

Vikamshi Fabrics Pvt ltd

Key Skills:

Industrial Maintenance | Mechanical Equipment Handling | Preventive Maintenance | Troubleshooting Skills | Understanding of Industrial Utilities | Team Collaboration | Documentation & Reporting

During my 6-week internship at Vikamshi Fabrics Pvt. Ltd., I gained practical exposure to industrial operations and machinery used in textile manufacturing. I observed and understood the working of various mechanical systems such as boilers, compressors, dryers, and weaving machinery. I assisted the maintenance team in regular inspections, minor repairs, and troubleshooting of mechanical equipment. I also learned about preventive maintenance schedules and safety practices followed in the industry. This experience helped me understand the importance of machine efficiency, downtime reduction, and real-world application of mechanical engineering principles in a manufacturing environment.

PROJECTS

Design And Fabrication of Sugar Cane Cutting Machine

Mentor: Dr. Arun Kakad Sir | **Team Size:** 4

Key Skills: CAD modeling | troubleshooting and testing | technical documentation | Machine Design Principles

In this project, we designed and fabricated a semi-automatic sugarcane cutting machine aimed at reducing manual labor and improving efficiency in the agricultural sector. The machine was designed to cut sugarcane stalks into uniform sizes using a mechanical blade system operated manually or with a small motor. We applied fundamental concepts of mechanical design, material selection, and manufacturing processes. The project involved CAD modeling, material procurement, machining, assembly, and testing. It provided valuable hands-on experience in mechanical fabrication, teamwork, and real-world problem-solving.

E-Waste Recycling of IC Circuits using Wet Chemical Analysis

Mentor: DR. Prashant Jikar Sir | **Team Size:** 4

Key Skills: e-waste components | wet chemical analysis a | material recovery and metal separation processes

This project focuses on developing a method for recovering valuable materials from integrated circuits (ICs) found in electronic waste. We are working on dismantling and chemically treating IC chips using wet chemical analysis techniques to extract useful metals such as copper, gold, and silver. The goal is to propose a cost-effective and environmentally friendly process for small-scale e-waste recycling. The project combines principles of mechanical dismantling, chemical processing, material recovery, and waste management. Lab-scale experiments are being conducted to optimize chemical concentrations and reaction times for efficient metal extraction.

ASSESSMENTS / CERTIFICATIONS

Ansys Fluid Dynamics

Provider: Eduskills foundation .org

Key Skills:

Understanding Fluid Properties | Flow Behavior Analysis | Problem Solving with Bernoulli's and Continuity Equations | Flow Measurement Techniques

Statics Structural Analysis

Provider: Eduskills foundation .org

Key Skills:

ANSYS Mechanical for static structural simulations. | problem-solving and analytical thinking | simulation results such as stress distribution, displacement, and factor of safety. | engineering design validation through simulation-based testing.

Python using Ai

Provider: Ai For Techies

Key Skills: Python | Artificial Intelligence | Artificial Intelligence and Machine Learning

PERSONAL INTERESTS / HOBBIES

- Playing Cricket , Reading Books,

PERSONAL DETAILS

Gender: Male
Marital Status: Single
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