PATIL ASHISH SANJAY

B.Tech. - Mechanical Engineering

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PROFESSIONAL SUMMARY

Motivated Mechanical Engineering student with strong fundamentals in core subjects and hands-on experience in CAE tools including ANSYS, HyperMesh, SolidWorks, and Fusion 360. Skilled in FEA, meshing, and simulation-based problem solving, with a strong interest in automotive engineering and lightweight design. Eager to apply simulation and design skills to develop efficient and innovative engineering solutions.

KEY EXPERTISE

Ansys | Fusion 360 | Solidworks | Hypermesh | CAE | Teamwork | Microsoft Power BI

EDUCATION

MIT Academy of Engineering, Pune 2023 - 2027

B.Tech. - Mechanical Engineering | CGPA: **7.41** / **10**

Azad Vidyalaya Kasegaon, Sangli 2023

12th | MSBSHSE | Percentage: **66.33** / **100**

Prakash Public School, Sangli 2021

10th | CBSE | Percentage: **76.60** / **100**

INTERNSHIPS

Internshala | Design 01 Jun, 2025 - 04 Jul, 2025

Ansys Design Intern

Key Skills:

Finite Element Analysis (FEA) | Meshing Techniques | Boundary Condition Setup | Static Analyis | Structural Analysis | Thermal Analysis

Completed a 6-week internship with hands-on experience in ANSYS (FEA & CFD).
- Worked on geometry preparation, meshing, boundary condition setup, and solver execution.
- Performed structural and basic thermal/fluid simulations to analyze stress, deformation, pressure, and temperature distribution.

internshala 23 Jun, 2024 - 31 Jul, 2024

Catia

Key Skills: Product Design | Engineering Drawing & Drafting | Design Visualization

Design Intern at Internshala focusing on CATIA.
- Completed a 6-week online CATIA internship, gaining experience in 3D modeling, assembly design, and drafting.
- Worked as a Design Intern creating engineering models and drawings.

PROJECTS

Smart Hydroponic System with Composite Growth Media 28 Jul, 2025 - 26 May, 2026

Mentor: Dr. P P Kothmire | **Team Size:** 4

Key Skills:

IoT System Development | Hydroponics (NFT System) | Flow Analysis | Problem Solving | Research & Development

Project Link: https://journals.stmjournals.com/jopc/article=2026/view=240668/

•Designed composite growth media for improved plant growth and nutrient stability.
•Successfully published the research work in the Journal of Polymer & Composites (2026).

CFD Analysis of Delta Wing UAV for Aerodynamic Performance Optimization 05 Jan, 2026 - 24 Apr, 2026

Mentor: R.A Patil | **Team Size:** 2

Key Skills:

Meshing | ANSYS Fluent | Mesh Refinement Techniques | Solver Setup and Convergence Monitoring | Aerodynamic Analysis

•Designed and analyzed a UAV model using SolidWorks and ANSYS Fluent..
•Performed CFD analysis to study airflow, pressure, lift, drag, and vortex formation
• My role: Developed CAD model, meshing, boundary conditions, and interpreted aerodynamic results

Performance Analysis of Vegetables/Fruits Dryer using Heat Transfer and Thermal Analysis 28 Jul, 2025 - 19 Dec, 2025

Mentor: R.A Patil | **Team Size:** 4

Key Skills: Heat Transfer | Thermal Analysis | Conduction | Convection | Thermodynamics

• Performed thermal analysis of a fruits and vegetables dryer system.
• Studied heat transfer, temperature distribution, and cooling load estimation
• Worked on heat transfer calculations and experimental performance analysis.

PUBLICATIONS / RESEARCH / WHITE PAPERS

Characterization and Performance of a Multiphase Lignocellulosic-Polymeric Composite Growth Media in an IoT-Automated NFT Hydroponic System 02 May, 2026

Engineering Research Project | STM Journals | **Mentor:** Dr. P P Kothmire | **No. of Authors:** 6

Key Skills: Research Publication | Scientific Writing | Automation Systems | Experimental Analysis | Technical Research

Addressed nutrient instability and low water retention issues in traditional NFT hydroponic systems.
Developed an IoT-enabled NFT hydroponic system with composite growth media for improved plant growth.
Published research paper in the Journal of Polymer & Composites (2026).

ASSESSMENTS / CERTIFICATIONS

Ansys

Provider: Internshala

Key Skills: CAE | Fintite Element Analysis | Design optimization | CFD Analysis | Meshing | Numerical Methods

Completed a certified ANSYS training course focused on structural, thermal, and fluid flow simulation. Gained certification for proficiency in model set-up, meshing etc.

Ansys Multiphysics challange

Provider: CADFEM

Key Skills: Engineering Simulation | Engineering Design | Post Processing | Design Moduler | Problem solving

Participated and received certification in the ANSYS Multiphysics Challenge, demonstrating the ability to perform advanced simulations and analyze real-world engineering problems.
Applied knowledge of structural and fluid domains to solve complex engineering scenarios using simulation tools.

Solidworks

Provider: Udemy

Key Skills: 3D CAD Modeling | Assembly Design | Engineering Design | Design Visualization

Completed SolidWorks certification focused on 3D CAD modeling and mechanical design.
Gained practical knowledge of product design workflow and CAD applications.

EXTRA CURRICULAR ACTIVITIES

- Active NSS volunteer engaged in community service, environmental awareness, and social development activities, contributing to teamwork, leadership, and civic responsibility.

PERSONAL INTERESTS / HOBBIES

- Traveling, Exersise, Listening Music.

PERSONAL DETAILS

Gender: Male
Marital Status: Single
Current Address: A/P Alandi, dehu phata crystal heights, Pune, Maharashtra, India - 412105

Date of Birth: 23 Feb, 2005
Known Languages: English , Hindi , Marathi
Permanent Address: A/P Gothkhindi Dist- Sangli tal - Walwa, Sangli, Maharashtra, India
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