

SUYASH TUKARAM GADAGE

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Summary

Design Engineer and M.Tech scholar focusing on robotics and automation through specialized frameworks and tools. Possesses a strong foundation in design and structural analysis using CAD, CAE, and DEM. Passionate about deploying new technologies to overcome complex engineering challenges.

Education

IIT Kharagpur

Master of Technology in Farm Machinery and Power | CGPA: 9.52/10

Expected 2027

Kharagpur, WB

Mahatma Phule Krishi Vidyapeeth

Bachelor of Technology in Agricultural Engineering | CGPA: 8.52/10

2025

Rahuri, MH

Relevant Coursework

- Robotics (Kinematics, Trajectory Planning, Dynamics, Sensors)
- AI Applications in Agriculture (ML, Neural Networks)
- CAD and Simulation
- Farm Machinery Design and Testing
- Tractor System Design
- Soil Dynamics

Experience

Altair (Academic Industry Outreach Initiative)

May 2025 – Jul 2025

Virtual Intern (DEM Simulation)

Remote

- Executed the project "Discrete Element Modelling of Soil-Basin Lister Interaction Using Altair EDEM."
- Applied the Discrete Element Method (DEM) to analyze soil-tool interaction and interpreted displacement, particle flow, and force data.

MSME Indo German Tool Room

Jul 2024 – Dec 2024

Junior Design Engineer

Aurangabad, MH

- Designed and analyzed engineering components using CAD, CAM, and CAE software.
- Collaborated on team-based projects with peers and mentors to engineer complex systems.

SRFMTTI

Aug 2023 – Sep 2023

Tractors and Agricultural Machinery Trainee

Anantapur, AP

- Analyzed various tractor systems in-depth, including engine, gearbox, fuel, and lubrication systems.
- Evaluated common agricultural machinery and implements, such as Plows, Rotavators, and Harvesters.

Projects

DEM of Soil-Basin Lister Interaction | Creo Parametric, Altair EDEM

Jan 2025 – Jun 2025

- Created a 3D CAD model of the basin lister using Creo Parametric.
- Simulated interaction between soil particles and the implement using DEM in Altair EDEM.
- Published findings in a conference paper (DOI: 10.5937/ISAE25003W).

Design and FEA of an Agricultural Reaper | Solidworks, ANSYS

Jul 2024 – Dec 2024

- Developed a 3D CAD model of a vertical conveyor reaper using Solidworks.
- Conducted Static Structural Analysis (FEA) on components like the blade and main frame using ANSYS.

Technical Skills

Softwares: Solidworks, PTC Creo, ANSYS, Altair EDEM, MATLAB, MS Office

Languages & Libraries: Python, Numpy, Pandas, Matplotlib, SciKit Learn

Robotics Tools & Frameworks: ROS2, Gazebo, RViz, MoveIt, Nav2

Extracurricular Activities

SAEINDIA TIFAN Prototype Development

2023 – 2024

Design Team Head

Rahuri, MH

- Participated in the TIFAN competition, performing in Virtual Design Round and Field Test Round.
- Developed a prototype CAD machine design in Creo along with the Kinematics of linkages adhering to TIFAN standards.

Dr. ASCAET, MPKV

2023 – 2024

Convener (Placement Committee) & Audit Committee Member

Rahuri, MH

- Facilitated placement activities, coordinating between students and recruiting companies, and oversaw financial audits for the Engineering Co-operative Mess.