



AYUSH KHARE

M.Tech - Mechanical Engineering

Indian Institute of Technology Tirupati, India

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Education Details

Program	Institute	Year	%/CGPA
M.Tech - Design & Manufacturing	IIT Tirupati	2024	7.81
B.Tech - Mechanical	Gyan Ganga Institute of Technology and Sciences	2021	8.95
12th	Nachiketa S.S School	2017	80
10th	Nachiketa S.S School	2015	8.4

Areas of Interest

- Research & Development, Product Design, Machine Design, FEA, CAD, Design and Optimization, Manufacturing

Technical Proficiency

CAD Softwares	Catia V5 , AutoCAD, Solidworks
Finite Element Analysis	ANSYS - Workbench
Simulation Tools	Matlab
Rendering Software	KeyShot
Autopilot Software	ArduPilot
Product Design	CDR, Design Reviews, DFx , FMEA , QFD , Material Selection , Prototyping

Experience

- R&D - Design Engineer (Organization: Transvahan Technologies India Private Limited, Bengaluru) [July 2024 – Till Date]**
Performed calculations for product design tailored to the Indian Army's requirements. Conducted structural analysis using ANSYS and implemented design optimizations to reduce product weight and cost, ensuring efficiency and reliability.
- Intern - Design Engineer (Organization: Prima Innotech LLC, US) [March 2023 – Till Date]**
Led the team in designing and optimizing CAD designs for Prototype Exfoliation and Ni Electroplating Apparatus. Applied DFx, CDR, DFEA, and QFD methodologies, alongside material selection and cost reduction analyses. Conducted structural analysis to ensure robustness and facilitated manufacturing at IIT Tirupati facilities.
- Intern - Design Engineer (Organization: Prima Innotech LLC, US)**
Developed a conceptual design for an exfoliation and electroplating apparatus. Designed a Catia V5 CAD-based concept for a wafer exfoliation system, integrating controlled spalling techniques inspired by IBM research. The design focuses on enhancing efficiency by replacing SiC with GaN, targeting applications in flexible circuit boards. By incorporating GaN on sapphire substrates and electroplating Ni on GaN, this innovation has the potential to revolutionize India's semiconductor industry, improve competitiveness, and drive innovation.
- Intern - Design Engineer (Organization: Prima Innotech LLC, US)**
Designed a Traction Model for an Autonomous Vehicle similar Tesla Model Y, in Matlab Simulink to obtain parameters such as current, motor torque, acceleration, battery consumption, etc.
- Internship (Organization: Oil and Natural Gas Corporation Limited) [4 Weeks]**
It involved in various activities related to the exploration, production, and management of oil and natural gas resources. Worked on Air Conditioning, Power Generation and Drilling Techniques.
- Internship (Organization: Ordnance Factory Khamaria) [2 Week]**
It is responsible for manufacturing various defense-related equipment, ammunition, and weapons for the Indian Armed Forces. Learn the manufacturing Techniques and Quality checking methods.

Projects

- **Design and Development of Fixed wing Drone** [6 Months]
Aim to build a drone with autonomous landing and takeoff with 24hr of Flight duration. Currently Working on Designing and analysis of the Drone. Manufacturing it using VIP Technique from the composite material using Carbon Fiber. Working on RTK for the GPS and ArduPilot for the autonomous handling of Drone.
- **Drone Launcher System** [6 Months]
We have developed a fully indigenous Drone Launcher, designed using CAD, analyzed, optimized, and fabricated to reliably launch drones weighing up to 20kg. Once testing is complete, we plan to apply for a patent. This innovative solution will be the first of its kind in India and is projected to be 95% more cost-effective than European competitors.
- **Electric Kart** [6 Months]
Build an Electric kart for the National Electric Kart Championship. Designed a CAD model using CATIA V5 and Structural analysis using ANSYS Workbench.

Achievements

- Chancellor Scholarship by RGPV university.
- Idea Selected for Smart India Hackathon 2018 on Security and Surveillance System.

Positions of Responsibility

- Placement Representative** [1 year]
• Responsible for all the placement related things for the Design & Manufacturing Branch.
- Manage International Conference PFAM organized in IIT Tirupati** [1 Months]
• Responsible for managing the Guest and handling the Technical and Scheduling Conferences.

Extra Curricular activities

- Completed NCC 'B' and NCC 'C' Certificate
- Played in Inter Hostel Volleyball Team

Hobbies or Interests

- Reading Books of Stock Market , Intraday Trader, Playing Cricket , Volleyball , Walking