

KOLLIPARA HEMANTH

About me:

A dedicated graduate with passion to work in the field of Mechanical Engineering seeking an opportunity with an esteemed organization where I can utilize my skills and enhance learning in the field of work.

EDUCATION AND TRAINING

2020 – 2023 Rome, Italy

MASTERS IN MECHANICAL ENGINEERING Sapienza University di Roma

2015 – 2019 Bhimavaram, India

MECHANICAL ENGINEERING BACHELOR'S Vishnu Institute of Technology

WORK EXPERIENCES

Researcher

Year: 2024- present

Currently I am working as a researcher in the mechanical department of Sapienza University, Rome. My activities include performing research on advanced methods in mechanical design and the application of these techniques in additive manufacturing technologies specifically for automobile components.

During my bachelor's at Vishnu Institute of Technology, I worked as mechanical engineer in the **TEAM KRONOS**, in charge of many roles over the years. The aim of the team is to design, perform analysis and fabricate Go-kart and Human driven All-terrain vehicles.

Design Engineer

Year: 2017-2019
Team of 25 persons

I was the key design engineer for our Go karts. We have designed and fabricated 4 go karts in total. Two of them with side engine mounts and two of them are rear engine mounts. I worked on software like CATIA, SolidWorks and the analysis was done using ANSYS.

Head Of Suspension Department

Year: 2019
Team of 50 persons

The goal was to design a suspension system for a human driven All-Terrain vehicle. The objective was to maintain the maximum traction throughout the track by maintaining continuous contact between road and tires. The hard point pickup process was done using LOTUS software.

Chassis Design Engineer

Year: 2018
Team of 30 persons

The goal was to design a Go-kart for a competition called Sieger Pro karting competition. The whole design was done in CATIA software and stress analysis was performed in ANSYS workbench. In the end fracture points were identified and additional material was added to avoid failure.

Transmission Engineer

Year: 2017
Team of 25 people

The goal was to calculate an efficient drivetrain for the go kart. The transmission efficiency was calculated using the power unit and torque developed at the shaft. By using the torque, we calculated the shaft dimensions with specified factor of safety.

Chairperson For Society Of Automotive Club

Elected in the year: 2018

I was elected as chairperson for the Society of automotive club. My role was to select team members and divide them into groups. In total I interviewed 60 students and selected 25 students as key members for the 2019 SAE BAJA competition.

DIGITAL SKILLS

Mechanical software's

CAD: Geomagic Freeform, CATIA, Solid Edge, SolidWorks, Fusion 360.

CAE: Altair HyperWorks (HYPERMESH), Ansys, Ansys CFD.

CAM: Camotics, Visual CAD/CAM, GrabCAD print.

Programming Languages: Wolfram Mathematica, MATLAB, C, C++, C#, Python.

MECHANICAL ENGINEERING PROJECTS

Preliminary comparison of the additive manufacturing sustainability in case of topologically optimized components through a piston case-study

The aim of the project is to design and perform topology optimization on a diesel engine piston. A locomotive diesel engine piston was considered to perform a case study that compares the sustainability issues of OEM piston and optimized piston produced by Laser powder bed Fusion technique. The results Presented in the KES sustainability conference for the year 2024.

Investigating The Usage of The Touch Haptic Device as a Tool for Free Form Design

To explore the concept of haptic device and design a car seat using a TOUCH 3D haptic device. By taking maximum dimensions the seat was designed, and a later tangency test was performed using zebra pattern in Solid Edge. All the experimental activities were performed using haptic devices and traditional mouse was not used. (Master's final thesis-2023)

Topology optimization of a shower caddy

To design a shower caddy for household purposes and perform topology optimization. The given object was meshed in ALTAIR Hyper works. The stress concentrating regions were identified, and further topology was performed by minimizing the weighted compliance and keeping the volume fraction unaltered.

Parametric Design and Family of parts

To design 4 types of stools in SOLID EDGE and differentiate them using Family of Parts and parametrization. Each stool has unique prerequisites that should be fulfilled, innovative features were also added for a much more ergonomic design than a regular one.

Design and fabrication of human driven All-terrain vehicle (ATV)

Our goal is to design and fabricate an all-terrain human driven all-terrain vehicle for a competition called BAJA conducted by the Society of Automotive engineers. We worked on this project for 6 months and we have submitted the reports to the associate judging panel.

Design and analysis of wind turbine blades

To design and perform analysis on windmill blades, design was done by using Solid works and analysis was performed in Ansys CFD. The goal was to find the optimum blade angle for different wind angles which was inlet and outlet to be known as coefficient of drag and coefficient of lift. (Bachelor's final thesis - 2019)

LANGUAGE SKILLS

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Production	Interaction	
ITALIAN	A2	A2	A2	A2	A2
GERMAN	A2	A2	A2	A2	A2
ENGLISH	C2	C2	C2	C2	C2