UTKARSH

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ABOUT ME

As an engineer, I bring diligence, punctuality, and strong adaptability to my work. Thriving as a dedicated team player, I consistently achieve successful outcomes in complex projects. With a specialisation in product development, CAD modelling, MATLAB simulations and mathematical modeling, I look forward to applying my expertise to diverse topics, aiming to make a positive impact on society.

WORK EXPERIENCE

Engineering Doctorate in Automotive Systems Design

Eindhoven University of Technology

Oct 2023 – Oct 2025 Eindhoven, Netherlands

- Thesis (Streetlive: A data collection system for ADAS):
  - Developed a modular mounting mechanism suitable for different vehicle fleets.
  - Designed sensor mounting for cameras, radars and GPS using CATIA.
  - Selected and evaluated materials for sensor mounts such that sensor noise is minimised.
- TU/e: Implemented a real-time vehicle localization framework for an autonomous car by integrating sensors and a vector-based map as a group project.
- IVECO: Developed an ADAS testing display by interfacing with vehicle CAN signals using a Raspberry Pi.

Automotive Engineer

Akkodis India

Jan 2022 – Aug 2023 Bangalore, India

- Worked on the design of the crash structure for Daimler, Germany.
- Worked on pre-processing for crash and durability simulations
- Created a Multi-body dynamics occupant simulation using MATLAB for Renault.

Lead Mechanical engineer

Lycan Automotive

Nov 2020 – Jan 2022 Bangalore, India

- Led the development of the electric vehicle's powertrain, integrating a planetary gearbox, driveline, and differential to optimise performance.
- Created and analysed the suspension assembly for the electric vehicle using CATIA and MATLAB.
- Conducted mechanical testing of materials, including ISO 6892-1 and ISO 1099 tests, to identify lighter alternatives for vehicle components.
- Converted an ICE vehicle to a Battery electric vehicle, to develop a prototype Autonomous vehicle.

TOOLS

CATIA	Proficient
Solidworks	Proficient
MATLAB	Proficient
ROS2	Very good
Python	Working knowledge
Agile and Scrum	Working knowledge

ACHIEVEMENTS

- Led a team of 25 people to two formula student competitions and went on to win an overall 3rd position and 1st position in acceleration event.
- Started the Formula Student Autonomous team of Manipal Institute of Technology.
- Developed a cost efficient multi body dynamics occupant simulation for Renault France.
- Awarded by MAHE, Manipal for my exemplary leadership.

TRAINING & COURSES

Vehicle dynamics seminar

Optimum G

Three days training Mumbai

Mathematics foundation of machine learning

Udemy

Self-paced Remote

Introduction to Machine Learning

Udemy

Self-paced Remote

ACADEMIC PROJECTS

Technical Head

Formula Manipal

April 2015 – May 2018 | Maniapal, India

- Designed the Vehicle chassis and its welding fixture for FSAE events.
- Designed and analysed the wheel assembly of the Formula Student vehicle using CATIA v5 and ANSYS.
- Conducted on-track testing to implement and refine vehicle control strategies such as Launch Control.

Vehicle Dynamics Engineer

Group Design project

March 2020 - May 2020 | Cranfield, UK

- Designed the suspension system for an ambulance, focused on improved ride comfort and handling characteristics using SolidWorks.
- Worked on Carmaker and MATLAB to perform virtual test driving.
- Worked on different Vehicle testing maneuvers like ISO 3888-1 double lane change test, constant steer angle test, step steer maneuver to validate the simulation model.

Toyota Yaris project [Master module project]

Cranfield Impact Center

Jan 2020 – Mar 2020 | Cranfield, UK

- Created and validated FE model for Euro NCAP full frontal crash simulation
- Expanded the model for various crash scenarios, to check for the model robustness

LANGUAGES

English	Professional Speaker (C1)
Hindi	Native Speaker
Dutch	Elementary (A2)
German	Elementary (A2)

HOBBIES

F1 | Chess | Marathons | **Books**

EDUCATION

M.Sc Automotive Engineering

Cranfield University

Sept 2019 - Sept 2020 | Cranfield, UK

- **Master Thesis**: Reduced Tyre Modeling for Vehicle Dynamics Control.
- **Group design Project:** Zero emission double crewed Ambulance. The group project aimed to design a fully electric ambulance to operate in London for the NHS

B.Tech Mechanical Engineering

Manipal Institute of Technology

Aug 2014 – June 2018 | Manipal, India

- **Bachelor thesis**: Simulation, design and optimisation of vehicle dynamics for a formula student race car.
- Research paper: Pacejka Magic formula parameter estimation through genetic algorithm.