Aditya Gangula

B.Tech. - Engineering Physics
Indian Institute of Technology, Hyderabad

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Education

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech.	IIT, Hyderabad	7.96 (Current)	2020 - Present
Senior Secondary	Telangana State Board	91.3%	2020
Secondary	CBSE	10.0	2018

Technical Skills

- MATLAB
- Simulink
- CFD
- Altair Hyperworks
- Solidedge
- Python
- C/C++
- LaTeX
- Git
- Icarus Verilog HDL

Key courses taken

- STEM.org accredited ECU tuning and remapping course offered by ReynLab
- Finite Element Analysis using HyperMesh for Automotive Plastics and Sheet Metal Applications offered by Decibels Lab Pvt Ltd
- Thermodynamics
- Fluid Dynamics
- Digital Fabrication
- Classical Mechanics
- Computational Physics
- Nonlinear Dynamics
- Digital Systems and Circuits
- Analog Electronics
- Data Science Analysis

Projects

- Semester project (Aug-Dec 2022) on performance analysis of Internal Combustion Engines under Prof. Pankaj Kolhe (Associate professor, MAE dept. IIT Hyderabad)
  Modelling and simulation of Compression Ignition Engines using MATLAB and python to predict real time performance.
  https://github.com/adityagangula/CI_Engine_Simulation
- Semester project (Jan-April 2023) on Motorcycle Dynamics under Prof. Ashok Kumar Pandey (Professor, MAE dept. IIT Hyderabad)
  Deriving a complete set of equations of motion of multiple rigid bodies that comprise a motorbike using Lagrangian mechanics. Predicting the trajectory and behaviour of the motorbike from a few input parameters.
  https://github.com/adityagangula/Motorcycle_Simulation
- Designed a 3D Planetary gear system using Solidedge.
- Plotting the Lorentz equations (Chaos theory) and visualizing the formation of the "Butterfly wings" along with an animation using MATLAB.
- Simulating a double and triple pendulum by deriving and solving the Euler-Lagrange equations of the system and producing an animation using MATLAB.
- Built a 220V AC input - 5V DC output phone charger.
- Wind tunnel simulations of various objects using CFD.
- Timetable generator using Google Apps Script API.

Extracurricular

- Represented our college in the 2022 inter-IIT sports meet for basketball and secured 4^{th} place amongst 23 colleges.
- Won 1^{st} place in an intra-college story writing competition.
- Greatly interested in automobiles and the engineering behind them.

Languages Known

- English - Working Proficiency
- Telugu - Working Proficiency
- Hindi - Working Proficiency