Yash Golani

Roll No: B22ME072
Mechanical Engineering
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Education

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech. (ME)	Indian Institite of Technology Johpur	9.10	2022-Present
Senior Secondary	HSC Maharsahtra State Board	95.0%	2022
Secondary	IGCSE Board	92.0%	2020

Experience

Student Research Assistant *Nov 2023 - Jan. 2024*
Research Intern IIT Jodhpur

- **Tools and Technologies**: Ansys Workbench, Finite Element Analysis/ Method **(FEA/FEM)**, Acoustic Analysis, **Ansys** Mechanical, Ansys Electrical
- Worked under Professor Amrita Puri to learn Ansys software simulations for mechanical and electrical subsystems.
- Researched alongside various students on the functioning and mathematics of Brushless DC motors and DC motors used in loudspeakers and how efficiecy of loudpseakers can be altered by variation in deifferent parameters.

ISRO Robotics Challenge IRoC URSC 2024 *Jan. 2024 - Present*
Mechanical Subsytem Head Jodhpur

- **Tools and Technologies**: **CAD Modelling**, Fusion 360, Rocker-Bogie Mechanism Design, Finite Element Analysis
- As Mechanical Subsystem Head, researched greatly over mechanics of Space Rovers, Wheel Design, Load Analysis and Team Management.

Projects

Aerial Robotics - Computer Vision Drone *Sept. 2023*
YOLOV7, SSH, ArduPilot, Electronics, BLDC Motors and Electronic Speed Controllers. IIT Jodhpur

- Core Team Member in the development of an Image Detecting drone controlled by Pixhawk, Raspberry Pi and operated by CNN to stream video data, under Prof. Binod Sharma as a part of Robotics Society.
- Electronics: Pixhawk V2.4.8 Flight board, NEO-M8N GPS Module, BLDC, 30A ESC

SOLINAS - Inter IIT Tech Contingent 12.0 *Dec. 2023*
Solidworks (Product Design, Animation), Fusion360, Material Analysis, Mechanism Design IIT Madras

- To design a mechanical shaft with the objective of homogenizing solid waste mixtures with liquid materials such as wastewater with features such as retractability, mounting convenience and user-friendly operation
- Focused on Mechanical Design and retractability mechanism of shaft along with solvent delivery using SOLIDWORKS Animations.
- Rank: **10th**

Groundwater Quality Detection (Course Project): *Oct. 2023*
KNN, Random Forests, Decision Trees, Logistic regression, numpy, pandas, matplotlib, sci-kitlearn, sklearn. IIT Jodhpur

- A machine learning model to detect and classify groundwater, based on numerous features provided in the TELANGANA state Water Quality Dataset
- The sub-problem that I focused on revolved mainly around Decision trees and to evaluate its performance.

Sales Forecasting: *Nov. 2023*
RNN, LSTM, Numpy, pandas, matplotlib Google Colab. IIT Jodhpur

- A machine learning model to forecast sales for the tens of thousands of product families sold at stores. Data included dates, store and product details, whether that item was marketed, sales numbers, and other data.

Mohr's Circle Calculator: *Aug. 2023*
HTML, CSS, JavaScript. IIT Jodhpur

- Developed an online Mohr's Circle Calculator as a part of my course 'Mechanics of Solids' to evaluate stress strain characteristics of various 2-Dimensional Systems.

Achievements

- **Department Rank 1,**(CGPA) Mechanical Deparment *Present*
- **Finalist,**Techfest, Rowboatics IIT Bombay *December 2023*
  - Designed and 3D printed the Boat structure, including hull cover and other basic components keeping in mind the streamlining of the boat. Electronics: Futuba 6-Channel Receiver and Transmitter, ESC, BLDC, Servo.
- **A Grade,**Course: Introduction to Machine Learning *Present*

Positions of Responsibility

– **Head: Events,** E-cell IIT Jodhpur *Present*
  * Organized and Managed various Events including E-Conclave and Inicio. My role mainly included the co-ordination and management with various speakers, students and multiple communications with the Office.

– **Core Member,** Robotics Society *Present*
  * Conducted various sessions for junior students to educate them about Robotics and electronics. Mentored juniors for various small-scale projects.

– **Subsystem Head,** Automobile Society *Present*
  * Being head of Rollcage vertical, worked on dynamics of the rollcage (chassis) of the ATV vehicle that we planned to build for the SAE eBAJA competition.

Key Courses Taken

– **External** : Basics of ROS, Fundamentals of Digital Marketing, Intro to Excel for Finance, SEO with AI

– **Academic**: Data Structures and Algorithms, Introduction to machine learning, Signals and Systems, Linear algebra and Calculus, Differential equations

Technical Skills

- **Programming:** C,Python,ROS,SQL
- **Softwares:** Solidworks, Ansys, Fusion360
- **Tools & OS:** Git, Jupyter Notebook,Google Colab, Linux, Windows
- **Libraries/Frameworks:** Pandas, Numpy, scikit-learn, matplotlib
- **Others:** Microsoft Excel, Powerpoint, Word, Figma