Maruthi Prasad Bantu

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🔗 https://maruthiportfolio.com/   📍 Oxford, United Kingdom

SKILLS

FEA   GD & T   Impact Analysis   Matlab   DFMEA

Ansys   SolidWorks   GT-Suite   LS-Dyna   Simulink

Creo   HTML & CSS   Java Script   Python

PROJECTS

Composite Bone Fracture Fixation Plate

- Designed 3D models of fracture bone fixation plates and screws in SolidWorks, reduced plate thickness by 4 mm making them lighter and more comfortable for patients.
- Reduced predicted bone plate failure rates by 13% through FEA, increasing reliability.
- Conducted Finite Element Analysis (FEA) using ANSYS, simulating stress-strain distributions and total deformation under various loading conditions.
- In this analysis I considered different scenarios and accordingly impact velocities (up to 10 m/s) representing different impact cases in real-world situations.
- Carbon Fibre displayed (up to) 20% decrease in bone stress compared to conventional materials, resulting enhance bone healing.

NVH Acoustic Analysis on Audi A3 & Absorber Design

- Designed Audi A3 cabin in SolidWorks, optimised mesh size (0.2 m to 0.05 m), achieving accurate non-zero frequency modes.
- Reduced structure-borne sound frequencies (87.6Hz to 67.936Hz) using absorber materials.
- Designed tuned vibration absorber for a beam, achieving target frequency (76 Hz) and reducing flexural vibrations.
- Optimised absorber mass position for 76.067 Hz resonance, improving vibration suppression by over 85%.

AI Driven X-Ray Baggage Scanner

- Developed an AI-based X-Ray system to automate the detection of harmful items in luggage, increasing efficiency by 40%.
- Implemented YOLO and Faster R-CNN algorithms, achieving 92.85% accuracy using a comprehensive dataset of labelled X-ray images.
- Utilized advanced machine learning techniques to train the AI model on these images, enabling accurate identification and classification of potential threats.

AI Voice Assistant

- Developed an AI Personal Voice Assistant using Python and Selenium. Enabled voice command interface for hands-free user interaction.
- Features include:
- Conducts web searches and retrieves information, provides current date and time upon request, sets and manages reminders for tasks, and records notes based on voice dictation.
- Determines current location and distances between cities using web APIs.
- Searches and plays videos on YouTube with voice command.
- Composes and sends emails via voice commands, and automates login to social media accounts.

EDUCATION

Masters in Automotive Engineering with Electric Vehicles

Oxford Brookes University

📅 09/2022 - 09/2023

Bachelors in Mechanical Engineering

MLR Institute of Technology Hyderabad

📅 08/2017 - 05/2021

EXPERIENCE

Application Development Associate

Accenture Solutions

📅 09/2021 - 08/2022   📍 India

- Tested backend functionality for displaying merchant offers on a bank application and performed test validations.
- Learned manual testing for seamless integration and performance.
- Conducted automation, functional, and regression testing using Tricentis Tosca and Selenium, improving application stability.
- Collaborated with cross-functional teams, increasing project efficiency by 20%.

PLM Intern

Tata Technologies

📅 02/2019 - 03/2019   📍 India

- Completed intern training in PTC Windchill and 3D Experience (Enovia).
- Learned streamline processes and improved efficiency through effective use of PLM software tools.
- Learned how to collaborate with design and engineering teams to integrate PLM solutions.

ACHIEVEMENTS

Personal Portfolio Website

Developed personal portfolio website and introduced AI chatbot in website.

Lead Power train Team

Led a team of four in designing and optimizing the powertrain system for an SAE Supra Formula 3 car.

CERTIFICATION

MATLAB & Simulink On ramp

Matlab Academy(MathWorks) - 2024

HTML and CSS in depth

Coursera by Meta - Learning