

ASHAR AHMED JAVED

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EDUCATION

Bachelors of Science, Mechanical Engineering

06/2024

National University of Sciences and Technology (NUST)

EXPERIENCE

Engineering Intern, GE Aerospace (Virtual Experience Program)

06/2024

- Developed a comprehensive strategy for alternative energy utilization, advising a hypothetical GE Aerospace team, which projected a 90% reduction in CO₂ production
- Analyzed and compared diverse energy sources for propulsion systems, including cost, energy density, storage requirements, selecting most emission reducing and cost effective fuel
- Prepared a technical presentation to guide the decision-making for a next-generation propulsion system, based on 2 aspects, by-pass ratio and compression ratio

Technical Team Member, AUJ (Formula Student NUST)

08/2022 – 05/2024

- Drafted a design, using SOLIDWORKS, the brake and pedal assembly, reducing material requirement by 20%, saving costs and improving performance
- Performed FEA analysis, using Ansys mechanical and analytical methods, which minimized the need of prototyping to almost 0%

Engineering Intern, WAPDA

06 – 08/2023

- Learned fundamental working principles of four sections of the plant, operations section, control section, electrical maintenance, mechanical maintenance
- Shadowed experienced engineers to gain insight into daily operations, 24-hours control, keeping frequency fluctuations at a tolerance band of 0.1 Hz

PROJECTS

Development of a Smart Metrology Machine (Final Year Project-Gold Medal Finalist)

- Designed custom LabVIEW software to process data from ultra-precise encoders, reduced garbage by 40 times, receiving 100 values per second
- Engineered a Bridge-type CMM with 2x2x2 cubic feet volume and sub-10-micron accuracy, using cutting-edge components to ensure precise measurements
- Created and Analyzed a 3D model for the CMM structure using SOLIDWORKS, reducing the prototyping requirements to 0%

Tesla Stock Price Prediction using Facebook Prophet

- Developed a time series prediction model using Facebook Prophet to forecast stock trends for next 30 days predicting fall or rise of the stock
- Automated process to analyze and predict stock trends, reducing 70% of coding time

FEA and CFD Simulation Projects Using SimScale

- Explored CFD principles by analyzing centrifugal pumps to determine crucial design parameters, like velocity gradients, pressure gradients, kinematic energy gradient
- Conducted linear and nonlinear analysis on aircraft landing gear bracket, determining optimum design that diminished maximum stress by 30%
- Performed Mesh convergence study on an L-bracket which converged on third iteration (fine mesh), giving less than 5% deviation from previous entry

SKILLS

CAD, SOLIDWORKS, ANSYS (Mechanical, Fluent), Matlab/Simulink, COMSOL Multiphysics, Python, Machine Learning, Deep Learning, NI LabVIEW 2019, Finite Element Analysis, Computational Fluid Dynamics