Musa Imran

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EDUCATION

Air University, Islamabad — June**,** 2024
Bachelors of Mechanical Engineering: — **GPA 3.42**
Recipient of a Merit Based Scholarship, Recipient Academic Excellence Award, General Secretary of ASME-AU Chapter for 1 year, President ASME-AU Chapter

Beaconhouse School System, Gujranwala — June, 2019
O/A Levels, Pre Engineering: — **4A*s & 7As**
Sciences in O' levels with Cultural Studies as Electives & Pre Engineering in A' levels

SKILLS

Programming and Software MATLAB, Arduino IDE
CAD and Design SolidWorks, AutoCAD
Manufacturing and Processes PowerMill, ANSYS Workbench, Computer Numerical Control (CNC), Fabrication
Quality Control and Analysis Quality Control, Product Quality (QA/QC)
Engineering and Development Product Design, Reduction (Complexity), Conceptualization, Sustainable Development, Mathematical Modeling, Calculations, Machine Design

ACADEMIC PROJECT EXPERIENCE

Automatic Temperature Control of a Room from Indoor Radiator Power, Controls Engineering — October 2022-2023

- Designed and implemented a comprehensive indoor heating system, leveraging IoT technology and controls system techniques to achieve a 25% reduction in energy consumption.
- Wrote a Research paper summarizing and evaluating results and findings

Design and Development of an Efficient Egg Incubation Solution, Final Year Design Project — February 2023-Current

- Modelled, Designed and Fabricated thermal, control and design parameters to improve upon industry convention
- Authored a pending review paper highlighting advancements and contributions

Design and Modelling of Central Cooling System in IAA Air University, RAC — September 2023-December 2023

- Analyzed and calculated cooling loads for a Basement Floor of IAA, Air University, utilizing advanced analytical tools and methodologies.
- Produced a comprehensive feasibility report for cooling system options, identifying energy-saving opportunities leading to a 25% reduction in energy consumption.

Review & Analysis on Jamshoro Thermal Powerplant, Powerplant Engineering — September 2023-December 2023

- Assessed complete analytical calculations of powerplant parameters and evaluated performance to be compared to results of NEPRA Performance Reports attaining less than 10% error across parameters
- Made a Sustainable Development Goals (SDGs) report utilizing combustion analysis insights

Vibrational Analysis on a Dragunov SVD Marksmen Rifle, Mechanical Vibrations — February 2023-May 2023

- Executed detailed vibrational analysis on the rifle's arm stock, implementing mathematical modeling and vibrational equations.
- Utilized Ansys Workbench and MATLAB to produce and organize data for optimization purposes.

ORGANIZATION EXPERIENCE

Paid Internship at Limitless Solutions Pvt Ltd, Gujranwala — June 2023-August 2023

- Spearheaded a 10-day intensive Design Camp on SolidWorks & PowerMill, followed by a comprehensive Manufacturing Processes' Assessment and Quality Control session.
- Oversaw and optimized end-to-end product design projects, from conceptualization to fabrication, resulting in a notable 20% enhancement in product quality and a 15% reduction in time-to-market.
- Designed a bespoke post-processor for reviving a CNC lathe which was prior unused with CAM features since procurement at the workshop

PUBLICATIONS

Modelling, Design and Analysis of Automatic Temperature Control of a Room from Indoor Radiator Power - *IEEEP New Horizons Journal (ISSN 3005-3110)*