WADII ES-SAFI

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Professional Experience

Graduate Research Student, *Mississippi state university* Sep 2023 – Dec 2023
Starkville, Mississippi

- Developed computational models using the Method of Characteristics, accurately simulating nozzle flow dynamics in high-speed engines.
- Investigated the interplay of flight parameters, isolator length, and combustion specifics in scramjet engine functionality, contributing to a deeper understanding of engine stability and performance.

Graduate Research Assistant, May 2023 – Aug 2023
Thermal Energy Storage/Decarbonization Lab Starkville, Mississippi

- Mastered ANSYS Fluent and MATLAB for complex simulations and results analysis.
- Calculated and confirmed impressive energy storage efficiencies, including a ~95% thermal input-to-chemical energy storage efficiency.
- Engineered and implemented a series of innovative laboratory experiments, cultivating practical experience and refining proficiency in solving intricate engineering problems.

Mechanical Engineering intern, *Milwaukee Tools* Sep 2022 – Dec 2022 | Remote

- Met Milwaukee Tool's aim of elevating output, achieving a goal of 170 evaluations daily, averaging at most 3 minutes per assessment.
- Conceptualized and crafted a test platform addressing electric, pneumatic, and mechanical elements, ensuring the M18 drilling machine's stability.
- Optimized testing protocols, achieving a 76% reduction in testing time, leading to increased productivity in the manufacturing process.

Manufacturing Engineering Intern, *SERMP (LPF)* Jun 2020 – Sep 2020
Casablanca, Morocco

- Streamlined operations by expertly operating and optimizing setups on 2-5 axis lathes and vertical/horizontal CNC milling machines.
- Orchestrated comprehensive part design processes, optimizing efficiency and reducing production time by 20% through implementation of lean manufacturing principles.

Academic Projects

- Developed and implemented a groundbreaking gear box solution, resulting in a 20% boost in spindle power without the need for motor replacement.
- Conducted Finite Element Analysis (FEA) on automotive suspension components, evaluating stress distribution, deflection, and fatigue lifespan under diverse loading scenarios.

Education

Master of Science in Mechanical Engineering, Jan 2023 – Dec 2023
Mississippi State University Starkville, Mississippi
GPA: 3.85/4.0

Bachelor of Science in Aerospace Engineering, Sep 2018 – Dec 2022 | Rabat, Morocco
International University of Rabat
GPA: 4.0/4.0

Skills

CAD/CAE (SolidWorks, Catia V5, Autodesk Inventor, FluidSIM, AutoCAD, Abaqus, Ansys),
Mechanical (Simulation and Analysis, Machining Processes, Microcontrollers, HVAC, CNC),
ELECTRICAL & SOFTWARE (Python, MATLAB, C++, Wiring)