Magaster Doda

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OBJECTIVE

Mechanical engineering master's graduate seeking to apply and expand my skills in SOLIDWORKS, MATLAB, Python, and design by contributing to innovative, real-world solutions in a collaborative environment.

EDUCATION

Master of Science in Mechanical Engineering — **College Station, Tx**
Texas A&M University | GPA: 3.6 — Aug 2024–May 2025

Bachelor of Science in Mechanical Engineering (minor in Computer Science) — **College Station, Tx**
Texas A&M University | GPA: 3.7 — Aug 2020–May 2024

EXPERIENCE

Peterbilt Motors (Class 8 Truck Manufacturer) — **Denton, Tx**
Applications Engineering Intern — May 2024–August 2024

- Supported and maintained technical documentation, including specifications, design and assembly
- Collaborated with dealers/customers to deliver vehicle specifications that met or exceeded optimization goals
- Developed vehicle weight estimates for use in SmartSpec and EASOP
- Interfaced with internal teams to assist customers/dealers throughout specification process ensuring accuracy and satisfaction

PROJECTS

Impact Test Rig Design: *Spring 2024 Texas A&M Engineering Project Showcase – OGRE Skin Test Rig (3rd place overall)*

- Designed, prototyped and fabricated mechanical test rig for evaluating force impacts in collaboration with six-member capstone team
- Applied robust mechanical design principles, prototyping techniques and tools such as SolidWorks to engineer a rig capable of delivering controlled impacts up to 2000 N and measured force responses across various protective materials
- Conducted requirement analysis, iterative testing, and performance analysis to meet sponsor specifications within a $5000 budget and tight timeline
- Presented technical rationale, design evolution and final results to project sponsor and faculty judges

Design and Implementation of a Controller for a 6 DOF Robot Arm:

- Designed feedback-linearized control system with Cartesian space decoupling allowing for more precise control and analysis
- Tuned controller parameters to achieve a critically damped system to avoid overshoot
- Designed and simulated trajectory paths for end-effector movement in Cartesian space
- Validated controller performance through live demonstrations on the physical robotic arm

Engine Assembly Design and Analysis:

- Designed piston assembly using SolidWorks, incorporating stress, deflection, and thermodynamic analysis
- Validated design integrity and optimized performance using SolidWorks Simulation
- Demonstrated proficiency in CAD modeling, FEA, and mechanical system analysis

Mars Rover and Landing Craft Analysis:

- Developed Python-based simulations to model rover landing dynamics and terrain navigation on Martian surfaces
- Applied numerical methods and mechanical system modeling to assess stability, mobility and environmental adaptability
- Demonstrated strong analytical skills and proficiency in computational mechanics

SKILLS & TOOLS

- SOLIDWORKS, MATLAB, GD&T, Python, MathWorks Simulink, NI Multisim, NI LabVIEW, C++, CAD, Microsoft Office Suite
- Thermodynamics, Fluid Mechanics, Heat Transfer, Material Science, Composite Materials, Combustion Science, Generative Design, Human Sensing Technologies, Failure Analysis, Data Analysis

HONORS/AWARDS

- **Spring 2024 Texas A&M Engineering Project Showcase** – *3rd Place Overall (OGRE Skin Test rig)*
- **McFadden Scholarship Recipient**

ACTIVITIES AND INTERESTS

- Mountain Biking, Hiking, Running, Camping, Skiing, Strength Training, Automotive/Motorsports, Shoe Collecting, Music Appreciation