LIAM NESTER

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Summary and Skills

U.S. Citizen that is a highly motivated engineer with a passion for the research and development of complex space and mechanical systems. Experienced in several diverse product applications utilized to solve a wide range of subjects focusing on data analysis and analytics, computational based testing and validation, and computational based modeling and analysis. Works well with teams through excellent communication skills and has the ability to grasp new technical information rapidly.

Software skills: MATLAB, Python, Julia, Java, C++ (beginner), Octave, GitHub, Markdown, HTML5 (beginner), Linux (Ubuntu 20.10), SolidWorks, ANSYS, Microsoft Office Suite, Minitab 19, Creo Parametric

Security Clearance Status: Current **Secret Clearance** as of December 12, 2019

Education

The University of Alabama, Tuscaloosa, AL
M.S. Mechanical Engineering, May 2021
Focus: Thermal Fluid Sciences
GPA: 3.5
Relevant Coursework: Convection Heat Transfer, Transport Phenomena, Space Propulsion, Space Environment, Thermodynamics, Heat Transfer, CFD

The University of Alabama, Tuscaloosa, AL
B.S. Mechanical Engineering, May 2020
GPA: 3.766, *Magna Cum Laude*
Relevant Coursework: Fluid Mechanics, Heat Transfer, Compressible Flow, Energy Systems, Thermodynamics I and II, Engineering Analysis

Work Experience

Aerojet Rocketdyne, Huntsville, AL   **June 2020 – Present**
Project Engineering Intern
- Organize and maintain large databases for statistical based analysis for product dimensions and properties
- Co-author customer-oriented reviews for testing procedures, manufacturing methods, and failure investigations
- Support failure investigations to identify and address nonconformances
- Consolidate and optimize large information packages for customer distribution

Aerojet Rocketdyne, Culpeper, VA   **May 2019 – August 2019**
Project Engineering Intern
- Utilized MATLAB and improved the statistical thermal analysis process for current and future engineers by organizing and automating data based comparative analysis
- Organized and maintained large databases containing more than twenty years of test data
- Cross referenced top failure modes with mitigation techniques to ensure product success
- Supported failure investigations to identify and address product weaknesses
- Analyzed manufacturing processes to increase product dimensional accuracy while minimizing cost

Select Research, Leadership, and Volunteer Experience

Master of Science Non-Thesis Research, University of Alabama   **August 2020 – Present**
"Analysis of Complex Channel Geometry to Enhance Nuclear Reactor Efficiency for Nuclear Thermal Propulsion"
- Design simulations using Python to analyze and compare thermodynamic efficiency of complex propulsion systems
- Analyze advanced space propulsion systems

Alabama Rocketry Association, The University of Alabama   **February 2020 – Present**
Research and Development Lead
- Spearhead research and affordable design projects focusing on the design, analysis, and manufacturing of high-pressure composite motor cases and cold gas thruster control systems
- Identify current and future research and development projects and determine the best approach for program integration

Tuscaloosa Rocketry Challenge, The University of Alabama   **January 2017 – Present**
- Educate 5th grade students about the scientific method, the engineering design method, and about space
- Mentor students through the design and launch of water-bottle-rockets for the opportunity to compete at the University of Alabama in a county-wide competition

Honors and Awards

- 2019-2020 NASA/Alabama Space Grant Consortium Scholarship winner
- Mechanical Engineering nominee for the 2019-2020 Capstone Engineering Society Outstanding Senior