

Lewis “Jed” Simms

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EDUCATION

Texas A&M University, College Station, Texas

Bachelor of Science in Aerospace Engineering May 2021 Cumulative GPR: 3.70

Master of Science in Aerospace Engineering August 30th 2021 - May 13th 2023

EXPERIENCE

Aerospace Human Systems Laboratory (Dr. Bonnie J. Dunbar), College Station, Texas, (August 2021 – present)

Graduate Research Assistant

- Trained to operate all lab equipment, including two 3-D scanning systems (3dMD and Vitus)
- Performing literature reviews
- Designing and testing research experiments and technology
- Writing detailed reports and procedures

Jacobs Technology (in support of NASA JSC), Clear Lake, Texas, (May - August 2019)

Thermal Analysis Engineering Intern

- Performed thermal analysis on the xEMU Spacesuit using FORTRAN and MATLAB to analyze the total heat storage an astronaut would experience during an 8-hour EVA
- Constructed a distribution of thermal control settings that maintains the comfort of a crewmember
- Wrote FORTRAN control algorithm to maintain the total heat storage of a crewmember at 0 BTU per pound
- Linked MATLAB and FORTRAN to automate data collection/analysis using nested loops

KBR/San Jacinto College (in support of NASA JSC), Clear Lake, Texas, (May - August 2020)

CST-100 FDO Support Intern

- Developed and tested command displays for CST-100 Flight Dynamics Officers (FDOs) to send commands to the Boeing Starliner vehicle
- Utilized the Multipurpose Display Tool (MDT) to design a console display that utilized the One Stop Commander
- Observed flight simulations and worked with my mentor to gain a sense of what it takes to be a flight controller
- Wrote a MATLAB script that performs complex time calculations to find a time of ignition (TIG) based on the current time and a time delay set by the user

SMASIS 2021 Conference (Abstract accepted), (August 2020 – May 2021)

Structural Analysis and Quality Assurance Lead

- Created a complex FEA model in Abaqus of a Thermal Control System (TCS)
- Scripted the model to allow for iterative design
- Scripted a design of experiments (DoE) to produce data for an initial design space
- Wrote custom genetic algorithm (GA) to optimize the TCS
- Implemented DEAP NSGAI genetic algorithm
- Wrote a technical report using LaTeX with hopes of taking the paper to a conference

SpaceCRAFT Research Lab, College Station, Texas, (August 2018 - May 2019)

Research Assistant

LEADERSHIP

Corps of Cadets, Fightin’ Texas Aggie Band, College Station, Texas, (August 2016 - May 2020)

Commanding Officer

- Selected by Military General Officers (ret.) to lead my outfit
- Responsible for the well-being, performance, and accountability of 66 cadets
- Gained experience as an interpersonal leader and strong communicator through a fast-paced military environment

Boy Scouts of America, Denton, Texas, (February 2009 – June 2016)

Eagle Scout

SKILLS

- MATLAB: Advanced – Skilled in data analysis and writing functions for numerical methods
- Python: Advanced – utilized to write FEA model scripts and optimization algorithms
- Microsoft Suite: Advanced – used for data analysis at Jacobs Technology Internship
- Catia: Basic – Self-taught because I am aware of Catia’s usefulness in the industry
- FORTRAN: Intermediate – used to edit Apollo era NASA thermal analysis model (control algorithms)
- MDT: Intermediate – developed displays for use by NASA flight controllers
- Abaqus: Intermediate – used to build an FEA model of a thermal control system
- LaTeX: Basic – used to write technical reports for the Aerospace Structural Design course