Nathan Stephens
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Education
Bachelor of Science in Aerospace Engineering (GPA: 3.29) | May 2026
Florida Institute of Technology, Melbourne, FL

Skills
Software: MATLAB, Simulink, ANSYS Fluent, ANSYS Mechanical, Creo, Fusion 360, NX, Blender, GIMP
Programming: MATLAB scripting, C++
Engineering Methods: CFD, Control Systems, Orbital Mechanics, Aerodynamics, CAD, Structural Analysis

Relevant Experience
Senior Design Capstone - Atmospheric Satellite Trajectory Repositioning Attachment
January 2025 – Present
- Designing and implementing control system architecture for a deployable drag device to accelerate orbital decay of Cube Satellites (CubeSats)
- Collaborating within a 10-member multidisciplinary team through structured reviews
- Developing and running orbital maneuver and deployment simulations using MATLAB and Simulink to evaluate system performance and reliability
- Exploring the limits of computational fluid dynamics (CFD) analyses in ANSYS Fluent in predicting aerodynamic drag behavior in the Low Earth Orbit (LEO) environment
- Programming motor control algorithms in C++ to command and coordinate drag device deployment mechanisms

Payload Carrying RC Airplane
January 2025 – May 2025
- Designed an RC airplane to carry an 8 Oz payload while ensuring stability and maneuverability
- Developed control system code using MATLAB and Simulink for lateral and longitudinal augmented stability, implementing algorithms to enhance the aircraft's dynamic stability and handling characteristics
- Created CAD models for the aircraft structure using Creo, ensuring a lightweight yet durable construction
- Utilized OpenVSP to perform aerodynamic modeling and initial sizing analyses, informing design decisions and performance estimates

Two-Dimensional Bell Nozzle Design
September 2024 – December 2024
- Created a numerical Method of Characteristics solver in MATLAB to design a Mach 2.4 supersonic nozzle
- Solved 49 characteristic grid points and produced the nozzle wall contour through automated geometric intersection algorithms, enabling high-fidelity contour visualization and performance estimation

AIAA Design/Build/Fly Aircraft – Fabrication Assistance
January 2023 – April 2023
- Supported senior design peers in manufacturing foam wing components for their DBF aircraft at the L3Harris Student Design Center
- Operated a CNC hot-wire foam cutter to shape wing cores based on CAD airfoil templates
- Gained practical experience with aircraft fabrication workflows

Achievements
- Dean's List (GPA > 3.5) Fall 2022, Spring 2025

Organizations
- President of the Caribbean Student Association (2024)
- Member of the American Institute of Aeronautics and Astronautics
- Member of the National Society of Black Engineers