

# 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

### Capstone AIAA Design Build Fly Project

January 2023 – April 2023

- Collaborated with a team of 13 to design, build, and test a remote-controlled aircraft for a national Design Build Fly competition
- Contributed to critical design reviews and aerodynamic analysis as part of the aerodynamics subsystem
- Assisted in operating a CNC hot-wire foam cutter to precisely cut and shape wing components

## Achievements

- Ranked Top 30 in a National Design Build Fly Competition - April 2023
- 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