

Joseph M. Morgan

morganjo1199@gmail.com — (252) 564-2001 — Raleigh, NC — [Joseph-Morgan.com](https://joseph-morgan.com)



EDUCATION

North Carolina State University (NC State) - Raleigh, NC

Expected Spring 2027

BS in Aerospace Engineering

Relevant Coursework: Aerodynamics, Aerospace Structures, Vibrations, Thermodynamics, Dynamics, Statics

GPA: 3.7/4.0

North Carolina School of Science and Mathematics (NCSSM) - Durham, NC

Spring 2023

Relevant Coursework: Computational Physics, Mechanical Engineering, Electrical Engineering, Advanced Java

GPA: 4.8/4.0

PROJECTS

Powerboat and Sailboat Restoration and Maintenance

Summer 2020 - Present

- Repairs and maintains mechanical systems (engines, rigging, etc.)
- Diagramed and implemented 12 Volt electrical systems from the ground up

2008 Toyota 4Runner Maintenance and Upgrades

Summer 2023 - Summer 2024

- Designed and implemented mounting and cooling solutions for an “onboard” air compressor
- Replaced suspension and brake parts

Waterproof Fabric Bucket - First Year Engineering Design Day - NC State

Spring 2024

- Modeled various design options in Fusion 360 and SolidWorks
- Explored fabric lamination techniques in an iterative engineering design process

Computational Physics - NCSSM

Spring 2023

- Built GUI-based Euler’s method aerodynamic simulation using JavaFX to study lift equation parameters
- Calculated J/Psi Meson mass from CERN momentum data using Python

EXPERIENCE

Electronics Lead Engineer – Engineering Mechanics and Space Systems Lab, Raleigh, NC

Summer 2025 - Present

- Designs and builds circuits supporting various sensors and data collection devices to perform accurate repeatable measurements during experiments
- Developed data collection GUI using MATLAB App Designer to consolidate data from multiple collection devices and present real time measurements during experiments

MATLAB (CSC 113) Undergraduate Teaching Aid - NC State, Raleigh, NC

Fall 2024-Present

- Instructs 20-student MATLAB course lab section on the practical application of new skills in programming and problem-solving
- Develops project auto-grader to minimize grade return times and increase team efficiency

Head Sailing Instructor - East Coast Sailboats, Southern Shores, NC

Summer 2017 - Summer 2024

- Collaborated with assistant instructors to teach beginner to intermediate sailing skills to children ages 7-17
- Managed risks on and around water to ensure the safety of students and instructors

ACTIVITIES, LEADERSHIP, AND ACCOMPLISHMENTS

NC State Sailing Club Team “SailPack”, Raleigh, NC

Fall 2023 - Present

- Competes against other collegiate club and varsity sailing teams in fleet racing and team racing events
- Studies wind and water physics to understand the best routes and tactics on the racecourse in variable conditions

Eagle Scout - Boy Scouts Troop 117, Kitty Hawk, NC

Fall 2022

- Awarded Eagle Scout rank after completing community-service Eagle Scout project consisting of over 60 hours of planning and work and managing 6 volunteers