

Michael Madden

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Mechanical and Aerospace Engineering student at the University of Florida with an aptitude for innovative design and problem-solving. Experienced in hands-on projects such as UNP Mission Planning, CubeSat design, and robotics for ISAM. Focused on contributing technical expertise and collaboration to dynamic engineering teams.

Education

University of Florida | Gainesville, FL | GPA: 3.96

August 2023 – May 2026

- **Bachelor of Science in Mechanical Engineering**
- **Bachelor of Science in Aerospace Engineering**

Florida State University | Tallahassee, FL | GPA: 3.95

August 2022 – August 2023

- **Associate of Arts**

Skills and Qualifications

- SolidWorks (CSWA), Fusion 360, Abaqus, NASA GMAT
- Expertise in Microsoft Office, G-Suite, and Adobe Suite
- Integrating and programming Raspberry Pi and Arduino devices with computer vision, AI, and ML Algorithms
- C++, MATLAB, F#, Python, Java, HTML
- 3D printing, soldering, MIG and TIG welding
- Trained in the use of CNC, manual mill, lathe, and other advanced manufacturing machinery

Work Experience

AFRL UNP Mission Concept 2025 Intern | Space Dynamics Laboratory | Albuquerque, NM | May 2025 – July 2025

- Developed a mission to demonstrate RPOD technologies on a CubeSat form factor utilizing electric propulsion and novel docking interface designs to transfer power, data, and force between satellites in orbit
- Trained in systems engineering skills to develop small satellite expertise at the University of Florida, promoting and sustaining research and education surrounding small satellites and small satellite technologies
- Experienced in satellite operations, structural and thermal analysis, ground station/GSE design, CDH and flight software development, and subsystem design for ADCS, EPS, Communications, and Propulsion

Teaching Assistant | Design and Manufacturing Lab | Gainesville, FL | January 2025 – Present

- Lead manufacturing labs for 32 students, providing instruction in the safe use of manual mills, lathes, brake presses, and other advanced manufacturing machinery
- Graded and provided constructive feedback on course design project designs and homework assignments
- Mentored students on manufacturing best practices, improving lab efficiency and reducing machining errors

Undergraduate Researcher | Space Technology and Research Lab | Gainesville, FL | July 2023 – Present

- Collaborated on the development of a robotic arm system to demonstrate in-space servicing and repair of non-cooperative satellites, incorporating camera tracking and augmented reality for advanced user interaction
- Researched and initiated development of a magnetically levitating platform to test self-stabilizing and regenerative braking of a reaction wheel to improve energy efficiency and sustainability

Involvement

Orbital Gators | Executive Board - Program Manager | UF | April 2024 – Present

- Co-founder of the organization, working with university faculty and other students to integrate with the UF Astraeus Institute to bridge college disciplines and to launch space research projects
- Facilitated and led general body meetings, coordinated with university faculty, and streamlined scheduling and collaboration across three specialized design teams, ensuring integration and completion of project milestones
- COSMIC team: developed a satellite to demonstrate ISAM with dual robotic arms capable of tool interchangeability and intercommunication to compete in the COSMIC Capstone Challenge competition
- Bus team: participated in the UNP Mission Concept 2025 and summer program, developing a CubeSat to demonstrate RPOD technologies such as maneuvering and docking
- Space Environment team: designed a sensor to detect high energy particles that present a danger to humans in space