

# MARCUS RIVERA

MECHANICAL ENGINEERING STUDENT · UNIVERSITY OF FLORIDA

DESIGN / BUILD / TEST / ITERATE

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Gainesville, FL

## PROFILE

University of Florida mechanical engineering student working across controls, robotics, embedded telemetry, structures, and hands-on test. Two design teams, one research lab, and six build-and-test projects.

## EDUCATION

### University of Florida

Gainesville, Florida

B.S. Mechanical Engineering — Herbert Wertheim College of Engineering

Expected May 2027 · GPA 3.78

## SELECTED PROJECTS

### Solar car telemetry dashboard

40 MS REFRESH

- A live dashboard that turns CAN bus data into readable driver alerts, pit strategy, and post-run analysis for a competition solar car.

### Autonomous drone landing

92% SUCCESS

- A Python and ROS pipeline for detecting a moving landing pad and commanding a stable final approach.

### Composite beam study

18% LIGHTER

- A test-backed finite element model comparing layups for stiffness, mass, and failure margin.

### Cold-gas attitude control rig

±1.5° HOLD

- A benchtop reaction-control demonstrator with closed-loop yaw control, solenoid valves, and live telemetry.

### UAV wing optimization

-11% DRAG

- A constraint-based geometry study that reduced predicted induced drag through span and twist tuning.

### High-altitude avionics bay

92,000 FT

- Mechanical integration lead for a student balloon payload flown to 92,000 feet and recovered intact.

## EXPERIENCE

### Controls Research Lab — Undergraduate research assistant

2025 — PRESENT

- Built and tuned test rigs for control experiments, wrote data pipelines, and co-authored an internal methods note.

### Consumer products company — Mechanical engineering intern

SUMMER 2026

- Owned tolerance studies and DFM feedback for two injection-molded assemblies from prototype to pilot run.

### Solar car team — Telemetry lead

2024 — PRESENT

- Led a four-student squad delivering the car's live telemetry stack and pit-side strategy tools.

### TOOLBOX

Python · MATLAB / Simulink · C++ · SolidWorks · ANSYS · ROS 2 · CAN bus · FEA · GD&T · Rapid prototyping















