

Reece DeAlmeida

Aerospace Engineering Student · Avionics & Flight Software · Embedded Systems · Test & Integration
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RESEARCH & ENGINEERING PROJECTS

Independent Aerospace Research — Dr. Keith Koenig

Planetary simulation & CubeSat-class payloads · 3–4 hrs/week · 2026–Present

- Contribute to a simulation chamber that reproduces the methane/water atmosphere of Titan so instruments and materials can be tested under representative conditions.
- Develop a 1U CubeSat-form fire-detection payload using Raspberry Pi cameras to identify potassium near-infrared emission signatures.

High-Powered Rocket & Flight Computer

— SystemsGo Tsiolkovsky Challenge

Avionics & Chassis Lead, FHS Rocketry Team (3 engineers) · Flew May 2025

- Designed, built, and programmed a custom Raspberry Pi flight computer in Python: BMP390 barometer and MPU6050 IMU logged at 100 Hz, live telemetry downlinked over cellular 4G, and a u-blox M8N GPS for post-landing recovery.
- Integrated two ArduCam IMX296 global-shutter cameras for onboard flight video, packaging the full avionics stack and its wiring inside a \$2,000 program budget.
- Flew one mile with a 1 lb payload on a HyperTek K240 hybrid motor; dual-deployment recovery returned the airframe intact with the full data set and video recovered.
- Contributed roughly 300 hours across avionics packaging, chassis reinforcement, ground testing, launch preparation, and debugging.

Mach 1 Rocket Design — SystemsGo Oberth Challenge

Project Manager, FHS Rocketry Team (4 engineers) · Flew May 2026

- Led a four-engineer team designing a high-powered rocket to break Mach 1 while holding a 13,000-foot ceiling, running Ansys CFD studies on the airframe.
- Flew May 2026 on a HyperTek L550 hybrid motor, reaching Mach 1 inside the required flight envelope.
- Balanced velocity, altitude, aerodynamic stability, structural integrity, recovery, and safety against that envelope, and coordinated the team's design reviews and launch preparation.

Containerized Server Infrastructure

Volunteer systems administrator · 2024–Present

- Run 25 Dockerized Linux services for a 250-member community at roughly 98% availability over two years, deploying nightly through Git/GitLab CI.
- Diagnose runtime failures and harden deployments against frequent upstream updates, improving repeatability and recovery time.

EXPERIENCE

Alphalete Athletics — Summer Intern

Stafford, TX · June–August 2025

- Configured and deployed 20 desktop systems across three divisions, including hardware/software setup, asset tracking, and basic network support.
- Organized, validated, and migrated product and colorway data into a centralized product-management system, improving consistency across a previously distributed workflow.
- Supported logistics and distribution for more than 21,000 apparel items serving 125 brand ambassadors.

EDUCATION

Mississippi State University

Starkville, MS

B.S. Aerospace Engineering

Expected May 2030 · Shackouls Honors College

Coursework: Introduction to Aerospace Engineering, Calculus III, C

Programming, General Chemistry I

Joining Fall 2026: MSU CubeSat team; AIAA student branch

TECHNICAL SKILLS

CAD & Simulation Fusion 360 (primary CAD, 250+ hrs), Ansys CFD (rocket aerodynamics), CATIA, MATLAB (flight-data reduction & simulation)

Programming Python (primary, flight & research code), C, MicroPython

Hardware & Test Raspberry Pi, ESP32, barometers, IMUs, GPS, cameras, data acquisition, soldering and PCB assembly, machine-shop fabrication, ground testing

Systems Linux, Docker, Git/GitLab, CI/CD, networking, monitoring

LEADERSHIP & OUTREACH

Rocketry Mentor & STEAM Outreach

FHS Rocketry Team · May 2025–Present

- Support younger rocketry teams with avionics guidance, debugging, and launch preparation.
- Taught aerodynamics and thrust through hands-on rocket activities reaching more than 1,500 elementary students across eight events.

Head Technician & Assistant Director

FHS Theatre Troupe 1084 · 2022–2026

- Programmed and operated lighting and sound control systems for 12 productions, troubleshooting live faults under hard deadlines.
- Led and trained technical crews of up to 35 students and coordinated logistics for nine productions of 20–100 performers.
- Tommy Tune Awards Outstanding Sound Design finalist (one of six from 72 schools); Texas Thespians All-State Lighting Designer, 14,000-seat venue.