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Julian Powers

EDUCATION

Bachelor of Aerospace Engineering

Sep 2019 - May 2023

Massachusetts Institute of Technology

Main courses: Flight Vehicle Aerodynamics, Flight Vehicle Engineering, Turbulence

Masters of Aerospace Engineering

Sep 2023 - Sep 2025 (expected)

Massachusetts Institute of Technology

Main courses: Partial Differential Equations, Numerical Methods, Under-Actuated Robotics

TEACHING EXPERIENCE

Teaching Assistant

2022-2024

Unified Flight Competition

MIT

- organized competition and created project assignments
- aided students in lab

PROJECTS

Research on Wall Model for Pressure from PIV

2024-2025

Master's Research

- Developed wall model for pressure extraction from Particle Image Velocimetry (PIV)
- Performed wind tunnel experiments
- Presented results at APS DFD Conference 2024

Trajectory Optimization for a Battery-less Solar UAV

2024

Research Project

- Modeled solar UAV flight dynamics
- Implemented direct transcription trajectory optimization
- Presented results at AIAA SciTech Conference 2025

Flight Vehicle Engineering Solar Sea-Plane

Spring 2023

Undergraduate Capstone Project

- Worked with other students to design and build a solar powered sea-plane UAV
- Focused on design and construction of wing spar

SKILLS

Programming

Python, Matlab, C++, L^AT_EX

Design Tools

CAD, Scientific Visualization, CFD

Hands-On / Practical

CNC, Composite Layups, Rapid Prototyping, UAV Flight Testing, Mechatronics