Brandon A. Jacobson

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Education

University of Florida, Gainesville, FL — May 2027
Bachelor of Science in Aerospace Engineering
Minors in Computer Science and Mathematics — GPA: 3.8

Experience

Technical Intern — May 2025 – Aug 2025
F3 International Resources LLC, Miami, FL

- Researched and analyzed specifications of emerging technologies to assess feasibility for defense and aerospace applications.
- Collaborated with international offices and external vendors, providing technical insights to support system integration and management decisions.
- Established a streamlined system for organizing contracts and pricing data, improving efficiency in project planning.

STAR Laboratory Research Assistant — Oct 2024 – Present
Spacecraft Technology and Research Laboratory, Gainesville, FL

- Analyzed the efficacy of a linear-switched multi-mode propulsion satellite to achieve a rendezvous in Low Earth Orbit.
- Tested MATLAB closed-loop control algorithms to evaluate computational performance and solver accuracy for linear engine switching.

Corporate Project Manager — Sep 2025 – Present
Society of Hispanic Professional Engineers, Gainesville, FL

- Maintain and update UF SHPE's Corporate Database, ensuring company information, project highlights, and recruitment data remain current for nationwide members.
- Implement improvements to enhance structure and usability, collaborating with team members to make it a more effective resource for SHPE chapters.

Controls R&D Team Member — Aug 2023 – Aug 2025
Swamp Launch Rocket Team, Gainesville, FL

- Designed and iterated new mechanical systems using CAD and 3D prototyping to optimize payload functionality and space utilization.
- Constructed simulations to analyze apogee changes caused by air-brake actuation, enabling accurate altitude control within 1% of a 10k ft target.

Projects

Custom Autonomous Quadcopter — 2025 – Present
Personal Project

- Designing and programming a custom PX4-based quadcopter to study flight control, sensor fusion, and autonomous navigation.
- Integrated ESCs, power distribution, and a Pixhawk flight controller for stable flight and telemetry; developed C++/Python MAVSDK scripts for autonomous takeoff, hover, and landing.
- Tuning PID parameters and implementing Kalman filtering to enhance flight stability and altitude estimation.

Skills

Programming: C++, Python, Java, MATLAB (data analysis & simulation)
Tools: PX4, MAVSDK, Git, Linux, Arduino
Design: SolidWorks (CSWA), CAD modeling, control system simulation
Technical Focus: Flight software, control algorithms, sensor fusion
Languages: English, Spanish