

Beckham Moreland

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Education

San Diego State University, College of Engineering
B.S. in Aerospace Engineering

Expected May 2029
Cumulative GPA: 3.7/4.0

Experience

Smart Mobility Intern (UAS Engineering), NASA Ames (AMA) – Moffett Field, CA Jun 2026 – Present

- Built and integrated 3 SAR multirotor prototypes in 3 weeks, including a flight-ready first build completed in 4 days, by translating 5 Air National Guard consultations and a 6-concept trade study into vehicle requirements
- Designed and executed 15+ wind-tunnel runs over 18 wind-on hours and 10–85 ft/s; authored the test matrix/TRR material and analyzed six-axis force/moment data with flight logs to quantify redesign stability gains
- Commissioned and revalidated avionics across 3 builds, resolving controller orientation, motor mapping, battery-sensing, vibration, and altitude-drift issues through functional testing and flight log analysis
- Planned and executed 10+ flight tests and 3 carrier-UAS releases from 30+ ft, coordinating readiness, pilots, and telemetry to achieve successful recoveries after all 3 releases
- Reduced redesigned-component mass 20%+ through FEA under motor-thrust and helicopter-downwash loads while maintaining analyzed structural margins and addressing test-identified weak regions

Test and Visualization Engineering Intern, MeshMap Labs Inc. – San Francisco, CA May 2025 – Sep 2025

- Led UAV and RTK field-test campaigns across 4 sites, varying altitude, image overlap, and capture parameters to establish repeatable data-collection procedures under changing conditions
- Diagnosed coverage and data-quality failures through post-flight analysis, planned corrective missions, and verified revised workflows in georeferenced 3D models combining UAV imagery and terrestrial LiDAR

Full Stack Developer Intern, Axyz Technologies – Oakland, CA Jun 2023 – Jul 2025

- Built and shipped 12+ Python/Django and JavaScript features from user requirements; debugged database workflows and iterated through test results and stakeholder feedback

Skills

Test & Instrumentation: Test planning/matrices, procedures and test cards, test readiness reviews, DAQ, telemetry/log analysis, anomaly investigation

Avionics & Integration: Vehicle avionics integration, sensor/actuator interfaces, electric propulsion and power systems, telemetry/data links, hardware configuration, sensor calibration, functional verification, soldering/wiring

Design, Analysis & Software: SolidWorks, CAD assemblies/drawings, structural FEA, additive manufacturing, SITL/HITL simulation, Python, MATLAB, pandas, Matplotlib, Git/GitHub

Projects

Fault-Tolerant Navigation Bench, Personal Project In-Progress

- Led the end-to-end development of a bench-scale GNSS/IMU verification platform, defining the hardware architecture, MCU and sensor interfaces, logging, and test requirements for repeatable preflight validation
- Developing Python fault-injection and analysis tools to emulate GPS loss, IMU bias and noise, frozen telemetry packets, and signal dropouts, comparing detection and recovery behavior before UAV integration

Autonomous UAV Systems Research, SDSU Undergraduate Research Mar 2025 – Present

- Integrating onboard sensors, telemetry links, and ground-station controls for an experimental UAV, documenting subsystem interfaces and validating communications ahead of future hardware and flight testing
- Evaluating MATLAB-based controls and state-estimation outputs through error analysis and test documentation, identifying integration needs before implementation on the physical aircraft