RYAN BILOCK

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EDUCATION

University of South Carolina **Columbia, SC**
Bachelor of Science in Aerospace Engineering Expected May 2029
Dean's List: 2024 - 2026 GPA 3.742

Cochise College **Sierra Vista, AZ**
Associate of Applied Science in Intelligence Operations Studies July 2025

AEROSPACE ENGINEERING EXPERIENCE

University of South Carolina - Adaptive Real-Time Systems Laboratory **Columbia, SC**
Undergraduate Research Assistant May 2026 - Present

- Developing a six-degree-of-freedom nonlinear flight-dynamics simulation of a fixed-wing unmanned aerial vehicle (UAV) in MATLAB/Simulink (Aerospace Blockset), modeling aerodynamic, propulsive, and gravitational forces and moments.
- Derived and implemented a propulsion model, plus a full aerodynamic coefficient buildup (lift, drag, side force, and roll, pitch, and yaw moments), from first principles for the SWIFT-UAV research platform.
- Building a parameterized, source-tagged master parameter file separating verified specifications, measured values, and engineering estimates to keep every simulation input traceable and auditable.

NASA L'SPACE Mission Concept Academy **Virtual**
Student Team Lead - Chief Scientist May 2026 - August 2026

- Directed a six-person science sub-team on a NASA-mentored mission concept, owning science objectives, instrument selection, and requirements traceability.
- Compressed a full mission concept lifecycle into ten weeks, delivering the Mission Concept Review, System Requirements Review, Mission Definition Review, and Preliminary Design Review (PDR) to evaluators.
- Negotiated science scope against hard mass, power, and cost constraints with systems engineering, defending science return where it mattered and descoping where it did not.
- Led students from universities nationwide, coordinating asynchronous work to fixed deadlines and presenting the science and payload sections at PDR under live question and answer.

American Institute of Aeronautics and Astronautics (AIAA) **Columbia, SC**
Student Member January 2025 - Present

- Support planning and execution of the 2026 AIAA Region II Student Conference hosted at the University of South Carolina, and engage industry professionals on propulsion and aircraft design.

MILITARY & PROFESSIONAL EXPERIENCE

U.S. Army SC National Guard - HHB, 1-178th Field Artillery Battalion **Georgetown, SC**
Intelligence Analyst NCO - S2 Section Noncommissioned Officer in Charge (NCOIC) October 2020 - Present

- Lead the intelligence section in high-pressure environments to manage complex data sets, ensuring 100% accuracy in reporting to senior leadership.
- Prioritize operational deliverables and requirements, ensuring timely systems support and readiness for mission-critical deployments.
- Apply rigorous analytical methodologies to evaluate system-level risks and provide actionable technical assessments for mission-critical operations.

U.S. Army - Combined Joint Task Force-Horn of Africa, U.S. AFRICOM **Camp Lemonnier, Djibouti**
Political/Military Intelligence Analyst July 2023 - April 2024

- Prepared theater and strategic-level threat, vulnerability, and risk assessments on high-value infrastructure by synthesizing large volumes of classified and open-source technical data.
- Developed data-driven reports to identify operational anomalies and system warnings, adapting analytic tools and processes to evolving technical requirements.
- Represented the CJTF-HOA intelligence enterprise across community working groups and supported analytic exchanges with interagency and coalition partners; awarded the Joint Service Achievement Medal.

SKILLS & CERTIFICATIONS

Technical: MATLAB, Simulink, Aerospace Blockset, ArduPilot, MAVLink, Creo Parametric, CATIA V5, Siemens NX, Microsoft Office Suite, Google Workspace; systems engineering, requirements traceability, trade studies, verification and validation