Nicholas Speredelozzi

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SECURITY CLEARANCE Active U.S. DoD secret (adjudicated)

EDUCATION

Embry-Riddle Aeronautical University   *Daytona Beach, FL*
Bachelor of Science in Aerospace Engineering (Astronautics) | GPA: 3.80 | May 2026

WORK EXPERIENCE

Engineering Technician Intern
Naval Air Warfare Center Weapons Division (NAWCWD) | China Lake, CA | Summer 2023 – Winter 2024

- Managed and updated AutoCAD-based facility layouts supporting Navy infrastructure modernization efforts, ensuring configuration accuracy across controlled engineering documentation
- Integrated LiDAR-derived point cloud data into 3D facility models to improve spatial accuracy for layout planning and engineering analysis
- Conducted on-site engineering surveys to validate existing facility configurations and reconcile discrepancies between field conditions and design documentation
- Organized and maintained a centralized facilities database to support space allocation, planning, and configuration management across multiple Naval aviation command stations

PROJECT EXPERIENCE

CubeSat Senior Design Project
Embry-Riddle Aeronautical University | Daytona Beach, FL | Fall 2025 - Present

- Derived system-level mission requirements for a 3U CubeSat performing space situational awareness in GEO, translating mission objectives into verifiable technical requirements
- Established verification methods linking system requirements to quantifiable testing and validation strategies
- Led subsystem-level trade studies for thermal control and radiation protection systems, evaluating mitigation strategies against GEO thermal cycling and hostile mission environments
- Developed end-to-end test plans adhering to NASA compliance documents, ensuring reliable performance over a 2-year mission lifespan
- Contributed to SWaP-C budgeting across avionics, payload, and bus subsystems to support integration feasibility and compliance with a $200,000 mission budget
- Assessed subsystem interfacing and integration constraints to ensure mechanical, thermal, and electrical compatibility across the spacecraft architecture
- Presented milestone design reviews (SRR | PDR | CDR | ORR) to faculty review boards and co-authored technical documentation rationalizing mission design decisions board

Spacecraft Control Systems Analysis Project
Embry-Riddle Aeronautical University | Daytona Beach, FL | Fall 2025

- Analyzed stability & transient response characteristics of feedback control systems using classical control theory, root locus methods, and MATLAB system modeling
- Evaluated closed-loop pole behavior through hand calculations and Routh-Hurwitz stability criteria to define stable operating regimes
- Validated analytical results through MATLAB-based transfer function modeling and root locus simulations

Launch Vehicle Conceptual Design Project
Embry-Riddle Aeronautical University | Daytona Beach, FL | Spring 2023

- Supported conceptual design & system integration decisions for a multi-stage, solid-fueled launch vehicle capable of delivering payloads to low Earth orbit
- Conducted structural analyses and trade studies adhering to FOS and compatibility requirements
- Developed CAD models, trajectory plots, and cost analyses, ensuring efficient use of materials and propellant

SKILLS

Engineering Tools: MATLAB | Simulink | Python | STK (Level 1 Certified) | NX Nastran

CAD & Design: CATIA | SolidWorks | AutoCAD | Autodesk Inventor