

Darren Finn Forschino

Aerospace Engineer · Mechanical Design · Thermal Analysis

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Active U.S. Top Secret Clearance

Early-career aerospace engineer with Northrop Grumman experience developing mechanical designs and thermal analyses for airborne electronics hardware, complemented by hands-on high-power rocket design, integration, and flight testing.

EXPERIENCE

Northrop Grumman Aeronautics Systems | Mechanical Engineering Intern El Segundo, CA · May 2024 to Present

- Designed a two-part conduction-cooled electronics cover assembly in Siemens NX, executing the full CAD workflow from concept and mechanical interfaces through design revisions.
- Built the thermal model from scratch in Simcenter Thermal, including analysis geometry, meshing, materials, contacts, heat loads, and boundary conditions, and iterated the mechanical design across 6+ cycles using first-principles reasoning and FEA results.
- Produced three part and assembly drawings and worked with manufacturing to resolve tolerance and machinability issues, revising geometry to improve manufacturability.
- Presented and defended the design in engineering reviews and closed resulting action items. During physical integration, identified an assembly-level form/fit discrepancy between analysis geometry and as-built hardware and corrected the model.

PROJECT

High-Power Rocket, Senior Design Capstone | Syracuse University Syracuse, NY · Jan 2026 to May 2026

- Designed the avionics pod, motor casing, and motor-retention hardware, and contributed heavily to a subscale aft control fin system, working within packaging, mass, and budget constraints for a ~10,000-ft target vehicle.
- Packaged and bench-tested the avionics stack (Teensy 4.1, IMU, barometer, transceiver, independent BlueJay altimeter), integrating sensors, wiring, and data acquisition for flight.
- Performed extensive hardware assembly and recovery-system integration across ~12 ground tests, two subscale flight tests, and one full-scale flight test. Investigated a subscale recovery failure, identified thermal damage during ejection, and implemented corrective changes validated on the subsequent flight.
- Analyzed post-flight altitude, velocity, acceleration, and trajectory data in MATLAB and Excel to consolidate results and inform subsequent design iteration.

EDUCATION

Syracuse University | B.S. Aerospace Engineering, Minor in Computer Science Syracuse, NY · May 2026

GPA 3.6 · Dean's List, 7 semesters

Relevant coursework: Propulsion, Thermodynamics, Aircraft Performance, Fluid Mechanics, Aerodynamics, Aerospace Structures, Control Systems.

TECHNICAL SKILLS

CAD & Analysis	Siemens NX, Simcenter Thermal, SolidWorks, MATLAB, Excel, OpenRocket
Mechanical	Mechanical design, thermal analysis, FEA, engineering drawings, tolerance analysis, DFM, electronics packaging, hardware integration
Test & Hardware	Flight testing, bench testing, test-data analysis, avionics integration, sensor integration, basic soldering
Programming	Java, Python, Arduino/Teensy, Git