David Krupp

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SUMMARY

Mechanical engineer with hands-on experience designing and testing electrical and mechanical systems for spacecraft, propulsion, and flight hardware. Skilled in guiding projects from early design through verification, validation, and full life cycle certification. Seeking a design role in aerospace structures, thermal analysis, fluid systems, testing, propulsion, or mission operations, available full-time in May 2026.

CORE SKILLS

CAD and Drafting: CATIA V5, SOLIDWORKS, Fusion, AutoCAD, GD&T, drawing release, tolerance stacks
Simulation: Ansys Mechanical, Thermal Desktop, MATLAB, Simulink
Software and Data: Python, NumPy, pandas, MATLAB, Linux systems, Git, LabVIEW, Structured Query Language (SQL)
Prototyping: CNC machining, Fused Deposition Modeling (FDM), Stereolithography (SLA), Direct Metal Laser Sintering (DMLS)
Test and Integration: Thermal vacuum (TVAC) testing, vibration and shaker tables, instrumentation design, data acquisition

EDUCATION

Master of Science in Engineering, Emphasis in Thermodynamic Systems May 2026
University of Georgia, Athens, GA GPA 3.65

Bachelor of Science in Mechanical Engineering May 2025
University of Georgia, Athens, GA GPA 3.49

EXPERIENCE

Research and Development Team Lead Aug 2023 to Present
Small Satellite Research Lab, Athens, GA

- Directed a ten-person Research and Development team advancing multiple satellite missions in space biology, remote sensing, and cislunar object tracking. Led mechanical and electrical design for spacecraft payloads including pressure vessels, microfluidic systems, imaging systems, and integrated hardware and safety devices.
- Verified mechanical and thermal performance using Ansys Mechanical, Thermal Desktop, and thermal vacuum (TVAC) testing, then translated results into full verification and validation frameworks with traceable test architectures critical design reviews (CDR). Developed mission Concept of Operations (ConOps) and led system-level engineering across requirements, interfaces, and de-risking for several satellite missions.
- Engineered key laboratory infrastructure including a fully autoclavable 3D Clinostat for biological research and a vibration table controller for a Ling Dynamic Systems shaker, enabling rapid hardware iteration, payload testing, and mission readiness.

Fleet Analytics Intern May 2024 to Aug 2024
GE Vernova, Atlanta, GA

- Wrote Python and MATLAB analytics that monitor gas turbine performance and safety. Built routines that flag combustion pressure and temperature anomalies and support root cause review.
- Modernized legacy alarm logic and refactored code for clarity and reliability. Improved run stability and reduced manual intervention for routine reviews.

Innovation, Engineering, and Flight Co-Op Jan 2022 to May 2023
Gulfstream Aerospace, Savannah, GA

- Served as an instrumentation flight test engineer. Designed tooling and assemblies in CATIA V5 for FAA certification tests. Worked with machinists to ensure manufacturability and quality.
- Designed a pneumatic system used for experimental aircraft flyover noise test data collection and supported installation and ground checks.
- Prototyped aircraft components in the Advanced Materials Laboratory using FDM, SLA, and DMLS additive manufacturing methods.

PUBLISHED WORK, CERTIFICATIONS, ACHIEVEMENTS

- **Engineering a Sustained Life Support Microenvironment for Space Biology Payloads** Author, publication pending - Science Direct, Apr 2026
- **Best Research Award** Optimizing Neural Radiance Fields for Solar Informed Volume Rendering, CURO Symposium, Apr 2025
- **Engineer in Training** Passed Fundamentals of Engineering Exam, NCEES, Jan 2025
- **Eagle Scout** Boy Scouts of America, Aug 2017