DAWSON MAI

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EDUCATION

Georgia Institute of Technology, Atlanta GA — Expected Graduation: May 2030
Major: Aerospace Engineering
GPA: 4.0

EXPERIENCE & PROJECTS

UCI Robotics & Automation Lab | *Research Intern* — May 2025 – Sep 2025

- Researched and evaluated mechanical leg linkage mechanisms and designed custom linkage-based robotic walker with SolidWorks
- Manufactured and assembled using custom 3D-printed and laser cut components
- Presented design process and project results to an audience of 50+ students and faculty at an academic research conference

CFRP Applications in Future Supersonic Airliners | *Author* — May 2024 – Dec 2024
Published Literature Review — International Journal of High School Research | View Publication

- Reviewed and synthesized academic sources examining the potential application of carbon-fiber-reinforced polymers to supersonic commercial aircraft
- Evaluated strength-to-weight ratio, manufacturing, environmental effects, and thermal resistance, comparing CFRPs with traditional aerospace alloys across considerations relevant to supersonic flight
- Conducted a case study on Concorde's engineering challenges to assess potential benefits and limitations of CFRPs in supersonic airliners

Low-Speed Wind Tunnel | *Independent Project* — Apr 2026 – May 2026

- Designed a low-speed wind tunnel with a 4×4 in test section, 7 in test section length, and 6:1 contraction ratio, incorporating a honeycomb flow straightener and diffuser to condition airflow
- Fabricated using custom CAD designed 3D-printed and laser cut parts
- Demonstrated airflow visualization through variable airspeeds using water vapor and adjustable fan speed in test section

Outdoor Air-Quality Monitoring System | *Lead Engineer* — Apr 2025 – Oct 2025

- Engineered a weather-resistant outdoor air-quality sensor in Fusion 360, selecting materials for prolonged UV exposure
- Soldered and integrated particulate matter, humidity, and temperature sensors into an Arduino-based system to process and upload environmental data online
- Led hands-on workshops teaching 50+ elementary and middle school students how to assemble and program air-quality sensors and understand outdoor air-quality

Water Rocket | *Co-Designer & Builder* — Jan 2026 – Apr 2026

- Optimized and modeled rocket geometry using hand calculations and OpenRocket, evaluating center of gravity and center of pressure, fin dimensions, and nose cone geometry
- Designed components in Fusion 360 and fabricated the vehicle using 3D-printed parts and plastic pressure vessels; conducted pressure testing to validate structural integrity under launch conditions
- Programmed a microcontroller-controlled parachute deployment system to automatically deploy parachute at apogee, successfully flight-tested the vehicle to 100 ft

ORGANIZATIONS

Georgia Tech Supersonics – Aerodynamics
Yellow Jacket Space Program – Propulsion

TECHNICAL SKILLS

CAD & Simulation: Fusion 360, SolidWorks, Siemens NX, OpenRocket, OpenVSP
Programming & Software: C++, Python, MATLAB, Java, JavaScript/TypeScript, HTML/CSS, React, Next.js, Git, Excel
Electronics & Fabrication: Soldering, 3D printing, laser cutting, Arduino