

Benjamin Mayeux

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Education

Texas A&M University, College Station, Texas

December 2025

Bachelor of Science in Aerospace Engineering, Minor in Mathematics

GPA: 4.0

Experience

Sandia National Laboratories, Albuquerque, New Mexico

Applied Aerodynamics R&D Intern

Aug 2024 – Present

Nuclear Deterrence R&D Intern

May 2024 – Aug 2024

NASA Armstrong Flight Research Center, Edwards, California

Jan 2024 – May 2024

Aerostructures Research Engineering Intern

- Conducted disk (bubble) testing of nylon fabric to validate strain sensors for use on parachute canopies.
- Directed 12 disk tests to failure to investigate fabric failure modes and maximum operating pressure.
- Programmed MATLAB script to measure strains up to 20% from side-profile images of disk tests.
- Directed 10 tests to validate side-profile script against strain measured by Digital Image Correlation (DIC).
- Analyzed DIC data using GOM software, yielding script relative error below 5% on average.
- Directed 10 disk tests of nylon embedded with a 2-inch commercial off-the-shelf capacitive strain sensor.
- Used side-profile script to measure strain under the capacitive sensor as a source of validation data.
- Laser-cut over 100 nylon and silicon coupons for disk testing of parachute broadcloth.
- Added configuration-saving functionality to Python GUI developed for a NASA-made portable DAQ.

Klebanoff-Saric Wind Tunnel, College Station, Texas

Jun 2023 – Dec 2023

Undergraduate Research Assistant

- Developed LabVIEW code to operate tunnel fan and National Instruments DAQ during daily calibration.
- Created Python scripts to compute 7 nonlinear regression parameters relating wind speed to Constant Temperature Anemometer voltage and tunnel temperature, and integrated these scripts into LabVIEW code.
- Programmed Monte Carlo simulation (500+ realizations) to estimate parameter uncertainty from sensor error.
- Wrote 10-page report detailing integration of Python and LabVIEW scripts.
- Increased data visualization efficiency by writing Python script to load and format data in Tecplot360.
- Operated a low-speed (2-15 m/s) wind tunnel in support of boundary layer experiments involving Constant Temperature Anemometry and naphthalene flow visualization.

Technical Projects and Research

Texas A&M AIAA CanSat Team, College Station, Texas

Oct 2022 – May 2024

Electrical Team Lead

- Designed electrical power and avionics subsystems of a 300 cubic inch satellite for AIAA's annual CanSat design-build-launch competition with a team of two other students.
- Created schedules for electrical system progress and assigned tasks to team members.
- Utilized EasyEDA to create preliminary PCB design, fitting over 15 components into a 63 mm radius space.
- Performed trade studies of air pressure sensors, pitot tubes, microcontrollers, GPS units, XBee radios, gyroscopes, and cameras with a \$1000 budget and 700g mass budget.
- Presented 10 slides covering the electrical power subsystem, microcontroller, and inertial measurement unit to competition judges as part of the Preliminary Design Review and Cumulative Design Review.
- Soldered over 20 electrical components and 2 independent electrical systems on satellite, including avionics and power for each system.

Texas A&M Turbomachinery Lab, College Station, Texas

Feb 2023 – Dec 2023

Undergraduate Researcher

- Conducted research aiming to predict hazards associated with Li-Ion battery combustion, including amount of energy released, final temperature, and chemical composition of reaction products.
- Reviewed scientific literature to determine thermal decomposition properties of various battery cathodes.