

JONATHAN A. ZAPOR

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EDUCATION

West Virginia University, Morgantown, WV

December 2025

Bachelor of Science in Mechanical Engineering (ABET-accredited)

Bachelor of Science in Aerospace Engineering (ABET-accredited)

Overall GPA: 3.97/4.00

Awards and Honors:

President's List (4.0 semester GPA) May 2022 – May 2025

summa cum laude

WORK EXPERIENCE

Savannah River Mission Completion, Aiken, SC

May 2025 – July 2025

Mechanical Engineer Intern

- Developed and conducted bench testing on a new model of flow indicating control valve (FICV) for a dilution ventilation system, confirming flowrate stability and compliance with safety basis limits during transitions to the backup air supply.
- Established that the new FICV enabled operation at higher inlet pressures and reduced depletion of the backup air supply, minimizing cycling of the backup air compressor and extending its life.
- Applied ASME B31.3 and manufacturer catalogs to integrate a pressure relief valve into a water booster pump skid, mitigating the risk of bladder tank rupture and associated downtime and repairs.
- Created a step-by-step procedure for maintenance personnel to identify a leaking valve on a separator tank, eliminating the need for maintenance personnel to remove and inspect each valve.
- Received praise from senior management for exceptional technical competence and ability to articulate results.
- Modified P&IDs and piping isometric drawings to reflect minor changes to utility piping systems.

West Virginia University, Morgantown, WV

January 2024 – May 2025

Undergraduate Researcher

- Analyzed and compared 6DOF simulation results with scale-model flight test data to identify trajectory similarities, providing the team with actionable parameters for characterizing and predicting the behavior of a tumbling aerodynamic body.
- Acquired knowledge of Linux scripting to develop an automated package for collecting 6DOF simulation data, reducing data collection time from three hours to eight minutes.

West Virginia University, Morgantown, WV

October 2022 – August 2023

Academic Tutor

- Mentored other students in a variety of physics, engineering and mathematics courses, several of whom reported improved understanding of the material and an average exam score improvement of 20% following regular sessions.

EXTRACURRICULAR ACTIVITIES

Microgravity Research Team

January 2025 – May 2025

Random Positioning Machine

- Applied principles from engineering coursework to design a low-cost benchtop apparatus for microgravity simulation.
- Developed a simulation to evaluate the theoretical performance of the system, eliminating the need for initial physical testing.
- Improved system efficiency, manufacturability and cost through iterative design using feedback from mentors and teammates.
- Presented final design in a technical review that was positively received by mentors.

Sigma Phi Delta, Beta-Xi Chapter

Academic Chairman

- Managed academic accountability for a 70-member organization, using Excel to collect and track performance data.
- Conducted one-on-one meetings with underperforming members to develop individualized improvement plans.

RELEVANT COURSES

Aerospace Projects with Industry | Applied Thermodynamics | Computational Fluid Dynamics | Engineering Economy | Finite Element Analysis | Fluid Mechanics | Heat Transfer | Intermediate Mechanics of Materials | Machine Design and Manufacturing | Manufacturing Processes | Statics | Dynamics | Thermal and Fluids Laboratory

TECHNICAL SKILLS

CAD Software Proficiency (Inventor, Fusion 360, Onshape, SolidWorks, MicroStation) | Simulation Software (ANSYS Workbench, ANSYS Fluent, APDL, Simulink) | MATLAB | Mechanical Design | Design for Manufacturing | Fluid Mechanics | Thermodynamics | Heat Transfer | Technical Writing | Critical Thinking | Problem-Solving | Collaboration

PUBLICATIONS

- Wade W. Huebsch et al. *Application of Scaled Flight Testing, M&S and Analytic Scaling Analysis in the Characterization and Prediction of Tumbling UAVAJ Dynamics for CSAVMS Design and M&S V&V*. 2025 AIAA DEFENSE Forum, submitted.