

CHASE TURMAIL

Aerospace & Mechanical Engineering

Propulsion | Mechanical Design | Aerodynamics

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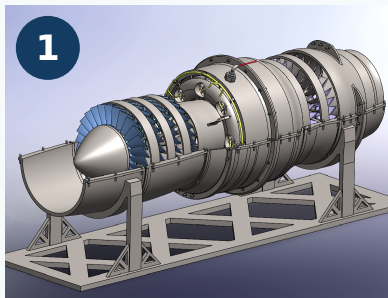


SCAN

ENGINEERING SNAPSHOT

University of Florida dual B.S. student (Aerospace Engineering + Mechanical Engineering, GPA 3.92). Mechanical Engineering Intern at Imaging Engineering, LLC. I build from analysis and CAD through hands-on assembly, integration, and iteration.

SELECTED WORK



1,000 N-Class Axial-Flow Turbojet

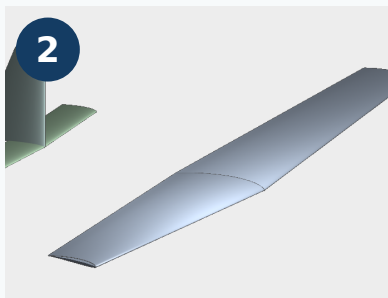
Independent project | SolidWorks, MATLAB | Ongoing

1,000 N target at Mach 0.75 / 10 km; cycle sizing informed CAD. Two turbine stages deliver ~213.8 kW after assumed shaft losses, matching modeled compressor demand. Performance is unvalidated.

1.91 kg/s modeled air

4-stage compressor

2-stage turbine



Stable Electric UAV: Aerodynamic Design & Analysis

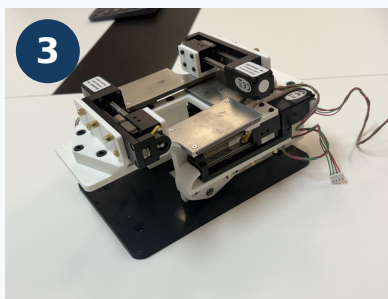
Independent project | XFLR5, XFOIL, MATLAB | Ongoing

Designed a 5 kg electric UAV from aerodynamic, stability, and packaging requirements, then used trade studies and lifting-surface analysis to converge on the final configuration.

0.500 m² wing

L/D = 24.18

10.4% static margin



Medical-Imaging Collimator Prototype 1

Mechanical Engineering Intern | Fusion 360, SolidWorks | Ongoing

Independently redesigned and physically assembled a new collimator version, integrating motion hardware, custom supports, 3D-printed components, and accessible assembly interfaces.

Linear actuators

Fit + alignment

Physical prototype

CAPABILITIES

- Mechanical design: assemblies, drawings, GD&T, tolerance design, DFM/DFA, BOMs
- Analysis: MATLAB, Python, LabVIEW, XFLR5, XFOIL, propulsion and aerodynamics
- Manufacturing + test: FDM printing, manual mill/lathe, welding, strain gages, inspection
- Certified SolidWorks Associate (CSWA) - Mechanical Design