Rishi Shetty

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EDUCATION

University of Michigan - Aerospace Engineering Major & CS Minor - *GPA: 3.79/4.00* Aug 2022 - Dec 2025

- 2022 Lockheed Martin STEM Scholarship Recipient

CORE COMPETENCIES

Software Skills: Solid Works, Autodesk Inventor, C++, Python, MATLAB, STAR-CCM+, AVL, ECalc, STK Level 1 Cert.
Relevant Courses: Differential Equations, Discrete Math, Data Structures & Algorithms, Gas Dynamics, Intro to Electrical Circuits, Solid Mech & AE Structures, Dynamics and Vibrations, Aerodynamics

WORK EXPERIENCE

Naval Sea Systems Command (NAVSEA) **Dahlgren, VA**
Systems Test Engineering Intern *2024*

- Developed test procedures for the verification and validation of the Tactical Tomahawk Weapons Control System
- Executed test procedures by operating segments of the Tomahawk Weapon System in the Weapons Systems Control & Integration Laboratory and collecting, recording, and archiving data
- Created the Automated System/Subsystem Specification (SSS) Standardization Evaluation & Test Tool (ASSETT), a model-based system engineering application that standardizes test inputs, requirements, and expected outputs

Aether Model of the Thermosphere and Ionosphere **Ann Arbor, MI**
Research Assistant *2023*

- Generated logfiles to output data specific to user-selected ions/neutrals species and satellite locations
- Advanced logfile reader with Python to interpret trends between temperatures and time visually
- Established an error-handling system used to improve the debugging process and screen input files

PROJECTS

M-Fly, University of Michigan **Ann Arbor, MI**
Autonomous Propulsion Lead *2024 - present*

- Collaborated with leads and E-Board communicating requirements, asserting deadlines, and allotting budget
- Mentored ~10 new members to use electric power system analysis tools including wind tunnel to refine prop system
- Selected and installed propulsion system including propellors, motors, batteries, ESC, and control surface servos by analyzing trade metrics of static and cruise thrust-to-weight, propellor efficiency, and motor current draw and temp
- Performed static, dynamic, and endurance testing on propulsion system ensuring optimal performance

Autonomous Aerodynamics Lead *2023 - 2024*

- Trained ~15 new members to use aerodynamic analysis tools and programming to optimize the aero design process
- Researched possible airfoils and wingtip designs, and plotted drag polars through AVL and STAR-CCM+
- Designed team's first elliptical wing planform considering limited manufacturability but improved aerodynamic performance, increasing cruise lift-to-drag ratio by 70% and Oswald efficiency by 11% compared to past year
- Formulated MATLAB script to find optimal parachute release height for a 5-stage descent by forward Euler method

Aerodynamics Team Member *2022 - 2023*

- Conducted aerodynamic analysis by XFOIL and AVL trades on airfoils, root chord, wing taper, and tail sizing
- Assembled planes from composites and balsa, machined wooden components, and ultracoted wings

Asteroid Deflection Mission, Engr 100 **Ann Arbor, MI**
Team Member *2022*

- Spearheaded orbital design using STK to calculate required asteroid momentum change and launch trajectory
- Modeled transport vehicles and impactors in Solid Works based on research of current and future spacecraft
- Instituted risk mitigation processes and mission timelines alongside fuel implementations guaranteeing proper impact

ACTIVITIES

Sigma Gamma Tau Aerospace Honors Society *Member* *2023 - present*
U-M Club Tennis *Internal Coordinator* *2022 - present*