Rishi Shetty

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EDUCATION

University of Michigan - Aerospace Engineering Major & CS Minor - *GPA (4.00 Scale):* **3.78** (Aug 2022 - May 2025)

- 2022 Lockheed Martin STEM Scholarship Recipient

CORE COMPETENCIES

Software Skills: Solid Works, Autodesk Inventor, C++, Python, MATLAB, STK Level 1 Certification, STAR-CCM+, AVL
Relevant Courses: Calculus 4, Programming & Data Structures, Gas Dynamics, Intro to Electrical Circuits, Solid Mech & AE Structures, Dynamics and Vibrations, Air Dynamics

WORK EXPERIENCE

Aether Model of the Thermosphere and Ionosphere - ***Research Assistant*** *(2022 - 2023)*

- Created logfiles to output data specific to user-selected ions/neutrals species and satellite locations
- Advanced logfile reader to interpret trends between temperatures and time visually
- Instituted error-catching and reporting system used to improve the debugging process and screen input files
- Implemented error handling system to flag NaN/Infs in ions/neutrals position temperature and velocity arma_cubes

M-Fly - ***Autonomous Team Aero Lead*** *(2022 - present)*

- Conducted airfoil analysis using AVL and XFOIL for trade studies on wing and aileron taper, chord, and tail sizing
- Assembled planes from composites and balsa, machined wooden components using bandsaw, and ultracoted wings
- Performed research on possible airfoils and wingtip designs, and plotted drag polars through STAR-CCM+
- Trained 10+ rookie members on how to use aerodynamic analysis and CFD software
- Constructed sizing plot detailing design point criteria and selection through MATLAB
- Researched aerodynamic and manufacturing abilities of a nontraditional elliptical wing design for future planes
- Developed MATLAB script finding optimal parachute release height for a 5-stage descent by forward Euler method

Tennis Racket Stringer - ***Freelancer*** *(2021 - present)*

- Grown to 30+ customers including U-M Club, Troy High Varsity, and JV teams, coaches, and Troy Racket Club

Troy Racket Club and Elite Tennis Camps - ***Tennis Coach*** *(2019 - 2023)*

- Formulated lesson plans and taught fundamentals to players ranging from 8 to 16 years old
- Demonstrated drills, led groups of 40+ kids, and directed more intensive training with adults

PROJECTS

Asteroid Deflection Mission *(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

Space Colonization Blog *(2022)*

- Compiled research on topics including space colonization missions focusing on rationale, issues, and technologies

"Playground Panic" for FIRST's Game Design Challenge *(2021)*

- Headed an 8-member task team, composed dimensioned game and scoring report, and managed submission of project
- Designed models of field components in Autodesk Inventor, and integrated team's pieces into full assembly
- Received FIRST Engineering Design Award out of 30 teams

Scale Model of the Space Shuttle *(2019)*

- Modeled NASA's Space Shuttle at a 1/12th scale in Autodesk Inventor to produce two solid rocket boosters, an orbiter, and an external tank implemented in professional advertisements

ACTIVITIES

Sigma Gamma Tau Aerospace Honors Society - ***Active Member*** *(2023 - present)*

- Inspired local youth into STEM by supervising AIAA's Aerospace Day activities of the Egg Drop and panel Q&A

U-M Club Tennis - ***Internal Coordinator*** *(2023 - present)*

- Managed tryouts and team website, designed merch, and collaborated with other officers to determine team policies