Aaryan Sonawane

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WORK EXPERIENCE

Honeywell Mission Systems — *Woburn, MA*
Mechanical Engineering Intern — *May 2024 – August 2024*

- Leveraged LabVIEW and Python to optimize Piezoelectric Crystal and flow cell performance, essential for precision instrumentation in aerospace systems.
- Developed and maintained machine-readable documentation for RF assemblies, aligning with military-grade standards and enhancing data accuracy. Coordinated cross-functional efforts to ensure compliance with contractual requirements, improving traceability and streamlining data submission processes.

Baker Hughes — *Billerica, MA*
Mechanical Design Engineer — *May 2023 – August 2023*

- Spearheaded the design and modeling of over 40 mechanical parts, including custom noise-reduction fixtures for fluid testing, using SolidWorks and adhering to GD&T standards. Delivered precision prototypes ensuring the highest levels of accuracy.
- Implemented Python-based algorithms to improve signal processing efficiency, enabling the simultaneous analysis of multiple signals—a critical capability for acoustic engineers.

DESIGN PROJECTS

Europa Composition & Habitat Observation (ECHO) Lander — *Troy, NY*
Attitude Dynamics & Control (ADCS) Design Lead — *August 2024 – December 2024*

- Modeled spacecraft attitude dynamics using MATLAB, STK, and Simulink, achieving precise stabilization and orientation control for critical mission phases.
- Designed and prototyped a liquid lens imaging system for deep space missions, integrating it onto a drone platform for terrain mapping and topography analysis, overcoming traditional optical limitations in radiation-heavy, low-gravity environments like Jupiter's moon Europa, ensuring reliable imaging in extreme conditions.
- Led a multidisciplinary team to assess the system's functionality in adverse conditions, emphasizing long-term image quality and data collection for scientific missions.

FalconX Aircraft — *Troy, NY*
Structural & Controls Lead — *August 2023 – December 2023*

- Led the structural design and control integration for a Delta Wing RC aircraft inspired by the B2 Bomber with Dr. Fotis Kopsaftopoulos.
- Conducted Finite Element Analysis (FEA) and Computational Fluid Dynamics (CFD) simulations using SolidWorks to ensure optimal aerodynamic performance.
- CNC-machined a foam mold for aerodynamic shaping and fabricated the carbon fiber skin for the aircraft, ensuring high precision and structural integrity.

EDUCATION

Rensselaer Polytechnic Institute (RPI) — *Troy, NY*
BS Aerospace & Mechanical Engineering (GPA: 3.2) — *August 2021 – May 2025*

EXTRACURRICULUR ACTIVITIES

Minor League Cricket – New England Eagles, Certified Flight Training – East Coast Aero Club, Lambda Chi Alpha Fraternity – Social Chairman + Social Media Manager, Twitter – Content Creator, RPI Blockchain Club – Treasurer, RPI Futsal Club – Captain