

AARYAN SONAWANE

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Education

Rensselaer Polytechnic Institute

Troy, NY

Bachelor of Science in Aerospace Engineering

- GPA: 3.20/4.00

Experience

Baker Hughes

Billerica, MA

Mechanical Engineering Intern

June 2023 – August 2023

- Led redesign of Herriott Cell for spectroscopy testing systems, improving optical alignment and reducing noise
- Optimized gas flow paths in Flow Cell assembly for enhanced measurement accuracy
- Created precise 3D printed prototypes with specific tolerance requirements
- Developed comprehensive assembly procedures and documentation for team training

CAES Mission Systems

Woburn, MA

Manufacturing Engineering Intern

May 2024 – August 2024

- Programmed RF wire bonding patterns for electronic components
- Designed and validated custom SMT testing fixtures
- Created detailed technical documentation for manufacturing processes
- Implemented efficiency improvements in assembly workflows

Engineering Projects

Europa Habitat and Composition Observation (ECHO) Lander | *ADCS Lead*

- Designed attitude control system for operation on Europa's icy surface with six-month mission duration
- Developed pyramid configuration of 4 reaction wheels ensuring three-axis control with redundancy
- Integrated dual star trackers, IMUs, and 3-axis magnetometer for robust attitude determination
- Optimized component selection within 25 kg ADCS mass budget

B2 Flying Wing Project | *Lead Designer*

January 2023 – April 2023

- Designed and analyzed a B-2 Spirit-inspired flying wing using hybrid Dolphin Fin/Reflexed airfoil
- Achieved FEM safety factor of 7-8 and validated aerodynamics through CFD analysis
- Built lightweight model with I-beam spar using PLA 3D printing

Deformation Displacement Array Sensor | *Project Lead*

September 2024 – December 2024

- Created hardware/software pipeline using potentiometers and Arduino for structural deformation measurement
- Implemented MATLAB-based Finite Element Analysis for data validation
- Designed custom sensor array configuration for optimal coverage

Extracurricular Activities

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