

Huzaiyah Bin Islam

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EDUCATION

Rutgers University – Engineering Honors College **New Brunswick, New Jersey**

B.S. in Mechanical and Aerospace Engineering, Minor in Computer Science GPA: 3.95

- American Institute of Aeronautics and Astronautics (AIAA) and Rutgers Honors College Member

EXPERIENCE

RU Airborne **New Brunswick, New Jersey**

Aerostructures Lead Sep. 2024 – Present

- Lead a 15-member aerostructures subteam in the AIAA Design Build Fly competition, overseeing CAD design workflows and ensuring design alignment with aerodynamic and mission objectives.
- Designed the 108-part wing assembly for the 2025 competition aircraft using SolidWorks, balancing aerodynamic performance, manufacturing feasibility, and our mission design objectives
- Created control surface assemblies (ailerons, flaps, rudder, elevator) and engineered a reliable mid-flight docking/release system for the X1 autonomous test vehicle, reducing ground mission time.
- Assisted in developing a Monte Carlo simulation for X1 glider flight trajectory to validate drop altitude and release parameters (200–400 ft) and conducted FEA on vital aerospace components
- Directed manufacturing of RC aircraft components using 3D printing, balsa layups, monokote application, precision assembly, and avionics integration, ensuring airworthiness and compliance with competition rules.

Rutgers University Solar Car **New Brunswick, New Jersey**

Brakes Lead, Machinist Sep. 2024 – Present

- Spearheaded brake system design for a fully solar-powered, road-legal race car competing in the Formula Sun Grand Prix and American Solar Challenge.
- Designed brake line routing and component layout; performed braking force calculations and validated with field testing to ensure safety and compliance with race regulations.
- Produced detailed CAD models and engineering drawings in SolidWorks; applied GD&T principles
- Conducted FEA in SolidWorks and MATLAB on suspension components for four load cases, verifying structural integrity under racing conditions.
- Machined custom components using CNC toolpaths, Bridgeport milling, and precision hand tools; implemented professional techniques for brake line cutting, bending, flaring, and bleeding to optimize performance.
- Managed supply chain and sponsor relations, organized part inventory, generated procurement lists, secured sponsorships, and maintained communications with key partners.

Advanced Composites Research **New Brunswick, New Jersey**

Undergraduate Researcher, Hybrid Micro/Nanomanufacturing Lab May 2025 – Present

- Designed and fabricated dual-network epoxy–acrylate MINET composites, optimizing resin chemistry, particle size, and porogen systems to improve stiffness and tunable porosity for aerospace applications and developed/tested 100+ samples
- Created 6ASTM-compliant silicone mold designs for compression, tensile, and DMA specimens, increasing test repeatability and ensuring high-quality mechanical data.
- Performed DMA frequency sweeps to measure storage/loss modulus, conducted Instron compression and tensile testing to determine stiffness, yield strength, Young’s modulus, and fracture behavior
- Optimized dual-network epoxy–acrylate systems by incorporating aluminum particles, surfactants, and porogens, improving phase stability and mechanical performance across multiple resin chemistries.

SKILLS & ACHIEVEMENTS

Technical Skills: ANSYS, SolidWorks, Fusion360, MATLAB, XFLR5, LaTeX, Python, Java, FEA