Aryan Sharma

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Education

Bachelor of Science in Aerospace Engineering **Expected May 2029**
University of Texas at Arlington | Arlington, TX
Honors: Recipient of the Maverick Academic Scholarship

Skills

Certifications: MATLAB On-ramp **(MathWorks, Aug 2025);** SIMULINK On-ramp **(MathWorks, Sept 2025);** Certified SolidWorks Associate **(Dassault Systèmes, Sept 2025)**
CAD: SolidWorks (CAD, CFD/Flow Simulation), Autodesk Fusion | **Simulation & Analysis:** Open Rocket, Simulink | **Programming Languages:** MATLAB | **Manufacturing:** 3D Printing, Laser Cutting, Composite Material Layups | **Microsoft Office:** Excel, PowerPoint, Word, Outlook, Teams

Projects

Tripoli L1/L2 Certified Rocket ("Zoomer") | Arlington, TX **September - November 2025**

- Achieved transonic (theoretically) L2 certification (Predicted: **3349** ft, **0.803** Mach) by iteratively upgrading a certified L1 airframe (Predicted: **1688** ft, **0.377** Mach).
- Designed in **Open Rocket** and modeled in **SolidWorks**, validating architecture against performance parameters simulated.
- Performed a **CFD analysis** using **SolidWorks Flow Simulation** to determine key flight characteristics, including drag force and aerodynamic stability, on the rocket's comprehensive 3D model before fabrication.
- Fabricated components using **3D printing** (ogive nose cone) and **laser-cutting** (wooden fin assembly)
- Engineered L2 upgrade by integrating a **GPS** tracking module and adding **25**g to preexisting nose cone mass to ensure stability.

Falcon 9-Inspired 3D Model (SolidWorks) | Coppell, TX **March - April 2025**

- Created a multi-part 3D model of a rocket inspired by Falcon 9 using **SolidWorks**, based on publicly available schematics.
- Modeled the payload fairing, second stage, interstage, first stage booster body, grid fins, and engine cluster.
- Utilized **SolidWorks' Appearances** feature to create visual differentiation between components, aiding in the accurate modeling of critical features like the interstage taper and boosters.

Leadership & Relevant Experience

UTA AIAA Design-Build-Fly | Arlington, TX **October 2025 - Present**
Structures/Manufacturing Team

- Developing a **manufacturing proposal** suggesting a design of a separate propulsion battery compartment for rapid battery integration to meet both flight safety and mission speed requirements.

UTA Aero Mavs | Arlington, TX **September 2025 - Present**
IREC Manufacturing Team

- Performing **composite material layups**, such as mid-body sections, using wet layup techniques with epoxy resin and Mylar sheets for a smooth surface finish.

UTA Fall '25 Professional Skills Academy Cohort | Arlington, TX **September - October 2025**

- Completed a highly selective professional development program, gaining expertise in professional and **career-readiness** skills.
- Developed expertise in professional communication, networking strategies, and leadership through interactive workshops.

Aerospace Club (Coppell High School) | Coppell, TX **August 2024 - May 2025**
Co-Founder/Astronomy Lead

- Co-founded and grew Coppell High School's first aerospace club to **115+** members, establishing it as the largest student organization in the school's history.
- Coordinated and led weekly astronomy meetings, teaching space fundamental topics like Kepler’s laws, celestial bodies, etc.
- Co-developed and managed a centralized **Excel** spreadsheet to track member enrollment, event logistics, and communications.