

Charles Silva

charliedsilva03@gmail.com • 469-758-7813 • Dallas, TX • www.linkedin.com/in/csilva03

SUMMARY

Aerospace engineering student with hands-on experience in propulsion manufacturing, integration, and system-level testing. Skilled in CAD (CATIA, SolidWorks, Onshape), data analysis, testing, and process optimization for systems. Motivated to apply research, testing, and manufacturing skills to fast-paced teams developing mission-critical aerospace and defense systems.

EDUCATION

The University of Texas at Austin Honors Aerospace Engineering Spring 2026
Overall GPA: 3.95/4.00

FIELD EXPERIENCE

Northrop Grumman, Space Production Operations and Test Department Summer 2025

– *Propulsion Manufacturing Intern*; Redondo Beach, CA

Designing, Planning, Resource Coordinating, and Supply Chain Forecasting supporting two satellite programs active production

- Designed CAD models and released drawings for 12 component simulators and tools for propulsion subassemblies using Catia
- Led redesign and planning of existing thruster fixture modifications, incorporating lessons learned for improved assembly processes
- Identified and pushed procurement of necessary non-flight hardware for subsystem assembly, ensuring timeliness for near-term build
- Analyzed 50 upcoming propulsion thruster and subsystem test procedures to identify equipment needs and prevent potential conflicts
- Developed process tracking sheets for 4 thruster builds across 2 programs, monitoring progress and documentation

JJ Pickle Research Lab, Space & Geophysics Lab – *Honors Scholar*; Austin, TX Summer 2024

- Developed Python code enabling adjustment of variables allowing a Zenith Camera to operate at varying time periods and precision levels
- Created extensive Excel-based data analysis resources for device users, focusing on usability and drastically reducing processing time
- Optimized data collection, reducing collection time by over 75% while ensuring accuracy through testing hundreds of possible solutions
- Achieved precision performance, consistently outperforming competitors by achieving equal or superior precision in 50% less time

Senior Design UAS – *Systems Engineering Lead & Manufacturing Team Member*; Austin, TX Fall 2025 – Current

- Translated customer needs into system and derived requirements, KDRs, and subsystem-level verification test plans
- Supported major design reviews (SRR, CoDR, PDR, CDR) and test readiness reviews for wing loading, propulsion, and first flight
- Built and integrated UAS, installing avionics and mech hardware including component mounting, wing forming, and fuselage assembly
- Iterated on mechanical designs in CAD and physical hardware based on design reviews, simulation results, and test feedback

Longhorn Rocketry Association – *Member*; Austin, TX Spring 2023 – Spring 2025

Test and Launch Operations Ground Crew & Launch Vehicle Fabricator

- Designed P&IDs, simulated flows in AFT Arrow, created CAD models, and researched instrumentation to build a fluid panel
- Conducted a variety of engine tests troubleshooting problems as they arose and utilizing LabView for precise experiment control
- Fabricated carbon composites for Echo, a single-stage dual-deploy rocket designed to reach Mach 3 while remaining under 32,000 feet
- Utilized OpenRocket simulations to optimize motor, nose cone and fin aerodynamics, and weight distribution

LEADERSHIP EXPERIENCE AND ACTIVITIES

Beta Upsilon Chi – *Internal VP, New Member Educator & Dallas Rush Lead* Fall 2022 – Present

- Led a team of 10 senior actives to oversee the new member process of 60 young college students
- Organized the scheduling and management of events almost every single day of the fall semester for the new member process
- Raised \$14000 for scholarships for members through parents' weekend donations and a raffle supported by donations by local companies

Texas Cowboys – *Member, Philanthropy Committee & Harvest Moon Committee* Fall 2024 – Present

- Selected as one of 25 new members into the oldest and most distinguished men's service organization at the University of Texas
- Served and organized events partnering with UT, the State of Texas Government, Special Olympics, Rosedale School, and UT Elementary

HONORS AND AWARDS

Ironman – **Completed the 2024 Chattanooga Ironman** Fall 2024

Salutatorian – **Lake Highlands High School** Spring 2022

ADDITIONAL INFORMATION

Technical Skills: Python, C++, Java, MATLAB, Git, SOLIDWORKS, Fusion 360, CATIA, Solumina, ENOVIA, ideaMaker, OpenRocket, Excel, 3D Printing, Laser Cutting, CAD/3D Modeling

Engineering Disciplines & Processes: Mechanical Engineering, Manufacturing Engineering, Systems Engineering, Testing & Integration, Data Analysis, FEA, Fluid System Design, P&ID Drawing

Interests: Running, Biking, Texas Football, Guitar, Piano, Skiing, Golf, Star Wars, Twiddling Thumbs, Outdoors