Sowmya Venkatesh

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Education

Georgia Institute of Technology *Expected May 2029*
Bachelor of Science in Mechanical Engineering
Courses: Intro to Engineering Graphics and CAD, Statics, Principles and Application of Engineering Materials
Amador Valley High School GPA: *4.39/4.00* *May 2025*
Courses: AP Calculus BC, AP Computer Science A, AP Physics C, AP Chemistry, PLTW Engineering
Awards: Amador Valley High School's Jose Maria Amador Award (Top 12 graduating seniors out of 650)
Sandia Women's Connection Award Nominee and AVHS Achievement Award Recipient

Skills

Software: Onshape, Fusion 360, Solidworks, Ansys FEA
Fabrication: Hand and power tools, 3D printing, Laser cutting, Mill, Lathe, Waterjet, Welding, Composite layups
Programming: Python, Matlab, GitHub, ML libraries in Python
Certifications: Duke's Drones for Environmental Science; MIT BeaverWorks' Girls, Design, Build, Fly Aircraft
Clubs: Yellow Jacket Space Program, American Institute of Aeronautics and Astronautics, Invention Studio Prototyping Instructor (in-progress)

Projects

Yellow Jacket Space Program: *Structures Subteam* *Aug 2025 – Present*
Designing intertank stringer, to minimize material usage and interface with rest of the rocket. Analyzing and experimenting with various geometries. Supporting composite layup processes for nosecone and fins and engine validation testing.
Team Leader *Aug 2025 – Present*
Using bio-inspired, functional design to model an ant-like search-and-rescue robot addressing a senior capstone project. Represent team at meetings with mentors and ensure team meets progress milestones and deadlines.
Student Researcher *July 2023 – July 2025*

- Identified disaster relief needs in remote communities. Designed novel versatile quadcopter with modular payload bay; simulated performance, refined, iterated design.
- Published on TechrXiv and selected to present at AIAA Student Conference.

SHTEM Internship, Stanford: *Research Intern* *June 2024 – Aug 2024*
Examined the performance of a novel reinforcement learning algorithm compared with standard ones under the guidance of faculty. Analyzed code. Designed metrics.
ASSIP Program, George Mason University: *Research Intern* *June 2023 – Aug 2023*
Investigated increase in temperature in solar corona, assessed models through spectral analysis of spacecraft data of magnetic loops, guided by university professor, and presented findings in a research setting.

Leadership

Space Frontier Foundation: *Newsletter Editor & Public Engagement Lead* *June 2024 – Present*

- Created and currently managing monthly newsletters featuring latest news in Space Based Solar Power for 3000+ subscribers, onboarded new volunteers on newsletter creation process.
- Led creation of project webpage, prepared materials for Congressional Briefings, wrote op-ed articles.
- Analyzing SBSP in-space assembly capabilities to present at International Conference on Energy from Space.

STEP UP Club: *Vice President of Outreach, Hardware Lead* *August 2023 – May 2025*

- Led team in designing software and hardware for a UAV in a proposal for the NASA TechRise student challenge
- Selected among 30 nationwide to launch on an Astrobotic lander and led development of payload systems.
- Launched and analyzed data to create a shake table to simulate the lander's vibration.
- Guided members in CAD, production, and assembly, using 3D printing, wood fabrication, and manual, power, and machine shop tools.
- Secured guest speakers from various national laboratories, companies, and universities for school events.

Chabot Space & Science Center:
Intern and Assistant Exhibit Tech *June 2024 – May 2025*

- Mentored 50+ volunteers and ran planetarium shows; designed and fabricated parts with 3D printing and laser cutting and used tools to repair and enhance exhibits.

Galaxy Explorer Volunteer *June 2022 – May 2024*

- Selected for rigorous high school program, involved in customer service, science education, and research through hands-on demos for diverse visitors. Volunteered 200+ hours. Special initiatives: outreach events, created science kits, and model rocket design, build, and launch showcased at symposium.

Awards/Honors

American Institute of Aeronautics and Astronautics Roger W. Kahn Scholarship National Winner *Feb 2025*
Society of Women Engineers Rebecca McNally Gilden Memorial Scholarship National Winner *Sep 2025*
Winner of NASA TechRise Student Challenge, selected from 600 teams nationwide *Jan 2024*