Sachin Shankar

Sammamish, WA • sachinshankar@live.com • github.com/shankar-sachin • +1 (253) 802-4934

OBJECTIVE

Passionate **aerospace and rocketry** enthusiast leveraging **software development** to push the boundaries of **propulsion and flight system research**. Seeking research or internship opportunities in aerospace or software engineering, with long-term goals of contributing to next-generation launch vehicles.

EDUCATION

Tesla STEM High School Redmond, WA

9th Grade Student — STEM Focus 2026 – Present

- Rigorous STEM curriculum with advanced mathematics and ample engineering opportunities.
- Active competitor in **Science Olympiad, DOE National Science Bowl**, and STEM academic competitions.

AWARDS & ACHIEVEMENTS

★ 1st Place — Washington State Science Olympiad (WASO), National Finalist 2026

★ 1st Place — BUMS U.S. National Science Bowl Invitational 2026

★ 2nd Place — National Science Bowl (NSB) Regional Championship 2026

★ 8th Place — Science Olympiad National Finals 2026

✯ 21-Time Medalist — Science Olympiad (Multiple Events & Seasons) 2024 – 2026

- Sustained multi-season excellence across Science Olympiad events spanning astrophysics, earth science, physics, engineering, mathematics, and chemistry.

PROJECTS

Space Payload Delivery for Less In progress

Independent Research Project

- Independently researching novel solid rocket propellant compositions targeting improved specific impulse (I_{sp}), burn stability, and cost per kg versus conventional formulations (e.g., APCP).
- Using OpenRocket for flight simulation and trajectory modeling; vehicle geometry modeled in CAD software. Project being developed toward WSSEF/ISEF submission.
- Planning to test through repeated iterations on OpenRocket and using our own rocket software and future model rocket launches.

Space Odyssey — Rocketry-Themed Discord Game Bot Completed

Solo Developer — JavaScript

- Designed and built a space-themed Discord game bot in JavaScript where players construct and manage space stations, compete for resources, and progress through in-game events.
- Integrated third-party image generation APIs to produce dynamic in-game visuals; built custom server workflows to automate game state management and server moderation. Publicly released at shankar-sachin.github.io/space-odyssey.

SuperWin — Windows Multi-tool Utility In development

Solo Developer — C++ / WinUI 3

- Integrated a one-stop shop where students can find different calculators to fit their needs for studying Calculus, physics, etc., along with a Python IDE built to fit a regular student's needs without bulky downloads, a native file converter which can convert photo and document file types, and much more.
- Self-contained deployment (Windows App Runtime bundled), in-place automatic updater via WinHTTP appcast, per-user install with no UAC. Publicly released at shankar-sachin.github.io/superwin.

TECHNICAL SKILLS

Programming	**Python** (Upper-Intermediate), **Web Stack** (Upper-Intermediate), **Java** (Intermediate), **C/C++** (Novice — Actively Learning)
Tools	**OpenRocket**, **Git & GitHub**, **CAD Software** (Novice — Actively Learning)
Mathematics	Up to **AP Calculus AB** (Differential & Integral Calculus) and Introductory Series & Sequences
Artificial Intelligence	Experience working with **artificial intelligence**, **prompt engineering**, and **automation coding tools** across multiple projects.
Domains	**Rocketry & Propulsion**, **Aerospace & Aeronautical Systems**, **Software Engineering**, **Automation**

INTERESTS

- **Rocketry** — Hands-on interest in solid propellant design, rocket motor engineering, and simulation-driven flight planning via OpenRocket.
- **Aerospace Engineering** — Passionate about applying software to accelerate propulsion research, avionics development, and launch vehicle design.

CAREER GOALS

Aspiring to pursue aerospace engineering post-graduation and contribute to the commercial spaceflight and aeronautics industries. Particularly interested in avionics, launch vehicle design, and implementation of software engineering in next-generation propulsion and aeronautical systems.