SWETHA CHIDAMBARA GANESH

swethacgk@gmail.com | (562)-584-2325 | https://www.linkedin.com/in/swethac-ganesh | US Citizen

EDUCATION

UNIVERSITY OF CALIFORNIA, SAN DIEGO [UCSD]

B.S. Degree in Aerospace Engineering [GPA: 3.9] 2022-2026

SKILLS & CERTIFICATES

Technical Skills: Fluids System, Cryogenics, Test Engineering, System Design, FMEA Analysis, Manufacturing Tech, Soldering, CNC
Software Skills: MATLAB, SolidWorks, Pro-E/CAD, Flownex SE – Ansys, FEA, CFD, Python, Java Script, Arduino, Raspberry Pi, Linux

PROJECT/ RESEARCH EXPERIENCE

Blue Origin June 2025 – September 2025

Propulsion Module Fluids Design Intern for New Shepard

- **Developed** an analytical MATLAB model to simulate pressure drops during tank decay checks, **validating against 17 historical checkouts**; demonstrated potential to **reduce test time by 35%+** and shorten launch turnaround.
- **Conducted fluids checkouts at Launch Site One (Texas)** to support launch preparation, applying insights learned to create tools that integrate AnalysisTools data from checkouts, P&IDs, vehicle testing/launch operations, and previous design criteria into the model.
- Researched pneumatic valve performance to isolate causes of actuation time discrepancies by reviewing acceptance test plans, comparing historical data, and analyzing engineering drawings.
- **Designed and executed valve testing plans** in coordination with test engineers and facilities, evaluating the effects of input pressure, voltage, and mediums; analyzed outputs including current traces, position switch changes, and pressure drops and rises to identify drivers of **40% actuation delays**.

SEDS (Students for the Exploration and Development of Space) at UC San Diego October 2022 - Ongoing

Halya Principal Fluid Systems Engineer

- Designed and **built ground support equipment (GSE)** to fuel, pressurize, and control a liquid oxygen and methane fueled rocket and a self-landing rocket. Developed a **P&ID** based on the system design, testing, and launch procedure requirements.
- Engineered and **built rocket pressurant-bay system**, adapting design to size constraints, part accessibility, and testing capabilities.
- Specialized in sourcing **cryogenic valves**, solenoids, and actuators for the GSE considering the various specs like fitting type, pressure rating, flowrates, and temperature rating needed for these vehicles.
- Spearheaded **designing cryogenic test plans**, **conducting several GSE and vehicle cold flow**, and prioritized safety & functionality, accounting for component usability. Troubleshooted and changed system design of rocket by changing tube line sizes, orifice sizes and insulation types to reduce tank prechill time by 35%.

Solar Turbines – Caterpillar June 2024 – September 2024

Engineering Intern in Solutions. Platform. Engineered. (SPE) Department

- Designed a system in Flownex SE- Ansys and adapted mathematical model in **MATLAB** to mimic low pressure electric booster pump to analyze the compressor dry gas seal system in long term pressurized hold.
- Engineered a parametrized tool on Flownex SE model by **analyzing data and engineering drawings** that finds optimal pump types and functional pressure ranges of the system. Conducted **FMEA analysis** for built system design.
- Sourced for booster pumps considering various specs: supporting 20+ compressors, optimal temperature ranges, and seal system flowrates for the low-pressure applications. Modeled pump integration in compressors using **Pro-E tools**.
- Produced EDMS (Engineering Design Memos) for knowledge transfer of MATLAB and Flownex SE models analysis.

PROFESSIONAL DEVELOPMENT

SEDS (Students for the Exploration and Development of Space) at UC San Diego March 2023 - Ongoing

Vice President of Operations | Active SEDS USA Member

- Led the SEDS 23'-24 recruitment season of **200+ applicants**. Communicated with project managers on interview material, worked with media and outreach teams, and organized a **SEDS engineering and safety camp** for over 30 new recruits.
- Streamlined operational timelines for engine development, static fire test stand, and two rocket vehicle project teams. Oversaw communication between project leaders, facilitated regular check-ins & **directed operations for engine static fires and cold flows**.
- Managed vehicle insurance, budget across project teams, and collection of member dues.
- Created a **general sustainable safety packet** for cold flow and static fire testing for test stands and launching vehicles. Worked on various fluids and valve **testing outlines**, general workspace guidelines, and member health safety packets.

Society of Women Engineers (SWE) @UCSD & SWE Envision 2023 October 2022 - Ongoing

Head of Envision Logistics Committee | Engaged Member

- Collaborated with 6 professors and 10 student coordinators to host Envision, a one-day program providing opportunities to **100+ high school females** to experience hands-on engineering.
- Liaised with dozens of professors, booked rooms, and curated panel questions to organize Envision engineering faculty panel and 4 lab tours. Organized and **led the student and parent program**, recruiting student panelists and our program's guest speaker.
- Actively engaged in SWE workshops, meetings, and outreach initiatives, volunteering at events and collaborating with members.