

JUSTIN THOMAS SELF

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OBJECTIVE

Current master's student investigating silicone-silicate conversion mechanism and fluence threshold in atomic oxygen LEO environment. Specific areas of interest include space environments, astrodynamics, thermal control, and hypersonic reentry systems. Available for relocation and work early Summer 2025.

EDUCATION

Master of Science in Aerospace Engineering Expected: June 2025
California Polytechnic State University, San Luis Obispo, CA
Current Cal Poly GPA: 3.905

Bachelor of Science in Aerospace Engineering Completed: June 2024
California Polytechnic State University, San Luis Obispo, CA
Outstanding Scholar and Researcher; Summa cum laude

Associate of Science in Physics August 2018 - May 2021
Cuesta Community College, San Luis Obispo, CA; High Honors
Engineering Student of the year (2021); Physics Student of the year (2021)

Associate of Science in Mathematics August 2018 - May 2021
Cuesta Community College, San Luis Obispo, CA; High Honors

RELATED COURSEWORK

Advanced Orbital Mechanics; Orbital Mechanics I and II; Spacecraft Attitude, Dyn. and Cntrl; Space Environments I and II; Reentry Aerodynamics; Spacecraft Electrical Systems; Design and Analysis of Experiments; Spacecraft Propulsion Systems; Sensors, actuators, and ctrl.

PUBLICATIONS

Hiremath, Nandeesh, Justin Self, and Nathan Eller. "System Architecture for De-orbiting Spacecrafts as a Platform for Experimental Aerodynamics Studies." **2024 IEEE Aerospace Conference. IEEE, 2024.**

Hiremath, Nandeesh, and Justin Thomas Self. "Virtual Aperture Multispectral Imaging for Atmospheric Reentry Studies Using High-Altitude Reflective Arrays." **102nd American Meteorological Society Annual Meeting. AMS, 2022.**

Face to Face: An 18-Day Journey of Hearing God's Voice as His Friend (Available on Amazon.com)

RESEARCH EXPERIENCE

Virtual Aperture Multispectral Imaging for Atmospheric Reentry Studies Using High Altitude Reflective Arrays — Lead Undergraduate Researcher (9/2021 - 9/2024)

- Developed framework for a system architecture for high-altitude aerial optics system that aims to capture IR signatures of hypersonic reentry objects.
- Responsible for collaboration, presentation, and technical communication with interdisciplinary research team and scientific community

NASA Community College Aerospace Scholars — Mechanical Engineer (8/2019 - 8/2020)

- Developed and organized mission concept proposal collaboratively with award-winning team.
- Presented mission concept proposal to NASA judges panel, taking first place in team division.

Clark College Aerospace Engineering Club — Team Lead (9/2017 - 6/2018)

- Designed, manufactured, and bench tested 3D printed models of passive roll stabilization system.
- Developed airframe components for the 2018 Clark College rocket for the Experimental Sounding Rocket Association (ESRA) 10,000 ft apogee collegiate rocketry competition.

WORK EXPERIENCE

Cal Poly Space Environments Laboratory (February 2024 - present)

Student Test Engineer

Responsible for running “fee for service” tests for aerospace industry space environments and materials research. Comfortable with vacuum chamber laboratory equipment including thermodynamic characterization and testing, CCP plasma asher used for atomic oxygen attack ground simulation, and UV radiation for synergistic effects studies.

Kainos Global 501(c)(3) (March 2023 - present)

CEO; founder

Developed nonprofit organization that exists to help others through teaching, humanitarian assistance, and leadership development in Africa.

Kainos Creative Solutions (4/2019 - 3/2023)

Owner; lead graphic/web designer

Established freelance graphic design, web design, and content writing company that serves clients nationwide.

Kainos Tutoring, LLC (4/2019 - 3/2023)

CEO; lead tutor

Spearheaded private tutoring company for math and science content. Grew company and held several contracted employees.

DaVita Kidney Care (6/2018 - 12/2020)

Certified Clinical Hemodialysis Technician

Active member of a multidisciplinary team responsible for technical management of Stage V kidney disease patients’ weekly in-center dialysis treatments. Have performed life-saving CPR and other critical interventions on patients.

The House NW (9/2015 - 6/2018)

501(c)(3) CFO, Outreach Director

Optimized and implemented a new accounting system for \$300,000+ yearly revenue 501(c)(3) non-profit org. Built and directly managed teams of volunteers, organized and executed mission trips, and collaborated with local community leaders to develop sustainable outreach programs that addressed community needs.

Fresenius Medical Care (3/2013 - 6/2018)

Certified Clinical Hemodialysis Technician

Expert Cannulator, Preceptor, and Senior-level Technician responsible for training new staff in clinic and staff from surrounding Portland, OR and southwest WA region.

TOOLS AND SKILLS

MATLAB SolidWorks Microsoft Office \LaTeX Web Design MiniTab JMP Pro Arduino

PROJECTS

IEEE Aerospace Conference Paper Presentation	March 2024
STEM-NET SoCalGas Student Fellowship Research Program	October 2022
LSAMP (Cal Poly STEM organization) Summer Research Fellowship	June-August 2022
Research presentation — AIAA Student Paper Conference, Merced, CA.	March 2022
20+ years of local, national, and international humanitarian mission work	