MANAS KATRAGADDA US Citizen

Boulder, CO | (720)-761-2777 | manas.katragadda@gmail.com | LinkedIn : https://www.linkedin.com/in/manas-katragadda/

EDUCATION

GPA: **3.1/4**

University of Colorado Boulder **Boulder, CO**

B.S. Aerospace Engineering, minors in Astrophysics and Space May 2025

Achievements: General Engineering Scholarship, Awtar and Teji Singh Scholarship, Bottle Rocket Project Accuracy Award Winner, Glider Project Design Award Winner, Ripple Award

Relevant Coursework: Electronics and Communications, Vehicle Design and Performance, Structures and Statics, Thermodynamics, Formation and Dynamics of Planetary Systems, Aerospace Dynamics and Systems, Orbital Mechanics, Aircraft Dynamics

EXPERIENCE

Senior Design - Deployable Magnetosphere Boom **Boulder, CO**

Software Lead - Embedded Systems *August 2024 - May 2025*

- Worked and implemented code to extend tapespring boom via motor control using a raspberry pi pico using I2C protocols.
- Implemented hard and soft iron calibration on magnetometer validating data against USGS geomagnetic readings.
- Designed the motor mounting system using **SolidWorks**.
- Conducted analysis between different types of Deployable Booms to choose ideal boom configuration.

Lockheed Martin **Highlands Ranch,CO**

Nebula HiveStar Intern *June 2023 - August 2023 & June 2024 - August 2024*

- Worked in an Agile environment to construct a GUI from the ground up, received feedback and went through rapid iterations
- Used **AutoCad Inventor** to design and model drone docks from scratch, optimized and mass manufactured them via 3-d printers.
- Attended daily scrum and increment plannings to figure out tasking between team members and stretch goals like STK(orbital) integration

NASA Colorado Space Grant Consortium **Boulder, CO**

Structures (Aerogel Cube Environmental Studies) *January 2022 - May 2022*

- Successfully launched 2 payloads consisting of aerogel, polyethylene foam over 100,000 ft
- Constructed a payload structure and conducted a structural analysis to protect essential equipment.
- Conducted Drop and Loading tests to ensure equipment within cubesat would survive G-Force of launch and fall.
- Conducted data analysis in Matlab to isolate the differences between aerogel technology and polyethylene foam
- Worked with sensors and embedded systems using C/C++ to integrate,monitor and receive data

LEADERSHIP EXPERIENCE

Society of Asian Scientists and Engineers **Boulder,CO**

Vice President | Intern | Member *August 2023 - Present*

- Served on the executive board, organizing events & meetings by partnering with diverse campus groups and companies.
- Secured over $5000 in funding by successfully reaching out to 10+ companies.
- Head of Decorations for AAPI Event successfully directing volunteers to manage 10+ booths with 500+ attendees.

University of Colorado Boulder **Boulder,CO**

Lead Space Minor Ambassador *August 2021 - Present*

- Organized outreach events with retired astronaut guest speakers to support community building for space enthusiasts
- Led the largest Star-gazing event(100+ attendees) at CU which involved operating telescopes and managing volunteers.
- Consulted for teams of students working on arduino board software to attach sensors that establish atmosphere metrics.

PROJECTS

Orbital Mechanics **Boulder,CO**

Team Lead *August 2022 - December 2022*

- Developed a spacecraft orbital determination model using MATLAB to chart a trajectory towards asteroid Bennu.
- Calculated required delta Vs for spacecraft takeoff and orbit. Modeled to reduce transit times and optimize fuel.
- Integrated scanning and orientation algorithms within the model to pinpoint specific points of interest on Bennu's surface

Glider Project (Design Award) **Boulder, CO**

January 2022 – February 2022

- Designed and constructed a glider to carry a camera payload within specific static and dynamic stability constraints
- Investigated multiple designs using MATLAB to determine an ideal glider configuration to maximize distance
- Created a **SOLIDWORKS** design using lightweight PLA and a 3D printer, successfully launching the glider over 75 feet

SKILLS, LANGUAGES & INTERESTS

Skills: C/C++, Java, Python, HTML/CSS/JavaScript, Matlab, Django, Microsoft Office, Soldering & Machining, Arduino, AutoCAD, Milling & Lathing, Welding

Interests: Longboarding, Scrambling (Escaping Death), Basketball, Rocket League