Anshul Jain

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EDUCATION

Master of Science in Aerospace Engineering Sciences
University of Colorado at Boulder — Aug 2023 - Dec 2025

Bachelor of Engineering in Aerospace Engineering
R. V. College of Engineering, Bengaluru — Aug 2019 - Jul 2023

TECHNICAL SKILLS

Control Systems: Linear Control, State Estimation, Kalman Filtering, State-Space Control, Control System Design
Flight Control & Aerospace: Aircraft & Spacecraft Dynamics and Control, Performance & Stability, Avionics
Systems Engineering & Optimization: Fundamentals of Systems Engineering, Operations Research
Programming & Tools: MATLAB, Simulink, Python, C, C++, R, Fusion 360, VS Code, Git, Mathematical Modeling

WORK EXPERIENCE

CU Boulder — Aug 2023 – Present
Teaching Assistant, Boulder, CO

- Strengthened communication and interpersonal skills by effectively explaining complex concepts and assisting students in applying theoretical knowledge to practical laboratory experiments.
- Developed leadership and team management skills through organizing and facilitating laboratory activities, ensuring smooth operation and fostering an environment conducive to learning.
- Enhanced problem-solving and critical thinking abilities by guiding over 50 students weekly through challenges, providing tailored support during office hours, and offering constructive feedback on exams.

AIRBUS — June 2022 - Aug 2022
Flight Control Intern, Bengaluru, IN

- Developed 6 DOF State-Space model and PID Controller for longitudinal stability of YAK-54 aircraft using MATLAB and Simulink, analyzing system stability via poles and zeros.
- Simulated aircraft performance by plotting key outputs (pitch rate, pitch angle, position and altitude) and optimized system stability using feedback from Gyroscope and Accelerometer transfer functions.
- Collaborated with a cross-functional team of five engineers, contributing to control system design, optimization, and performance evaluation, while honing communication and teamwork skills in a fast-paced environment.

PROJECT EXPERIENCE

CU Boulder — Aug 2023 – May 2024
Graduate Project – Hardware & Simulation Engineer, Boulder, CO

- Designed and developed Attitude Determination & Control Module for CubeSat applications, focusing on achieving 3 arcsec pointing accuracy and compact design requirements.
- Led hardware trades and selected components for the module, ensuring compact 0.5U volume and 0.885kg weight, while documenting trades and component functionality.
- Created Digital Sun Sensor model in C++ using Basilisk framework for simulation environment, contributing to the system's overall performance evaluation and optimization.

R. V. College of Engineering — Mar 2023 – July 2024
Senior Project Team Member, Bengaluru, IN

- Collaborated with a cross-functional team to design a novel aeroshell aimed at improving heat dissipation during spacecraft reentry, enhancing thermal protection efficiency.
- Gained hands-on experience in large-scale project contributions while working under the guidance of a project lead in a structured team environment.
- Demonstrated strong conflict resolution and communication skills by addressing interpersonal challenges, maintaining team cohesion, and refining my interest in control systems.

LEADERSHIP EXPERIENCE

Team Antariksh, R. V. College of Engineering — Oct 2019 – Aug 2022
Recovery Sub-System Engineer, Bengaluru, IN

- Led the design and testing of dual parachute recovery systems for sounding rockets, ensuring effective recovery for rockets with 2k and 10k feet apogees.

- Trained and mentored new team members, guiding them on software tools and parachute system design, while overseeing successful integration of parachute dynamics.
- Conducted ground testing and CFD analysis to optimize parachute performance, including incorporating spill holes to reduce wobble and lateral drift, ensuring reliable recovery operations.

COURSE PROJECTS

Speed Control of a Brushless DC Motor using LQR May 2022 – June 2022

- Designed and implemented a Linear Quadratic Regulator in MATLAB to regulate the speed of a brushless DC Motor, ensuring stability and performance under varying load conditions.

Animate Images using Mathematical Modeling May 2022 – June 2022

- Developed mathematical models in MATLAB to animate images by manipulating their brightness using Gaussian distribution transformations.

Numerical Analysis of Effects of Wind Tunnel Blockages on Wing Performance May 2022 – June 2022

- Simulated and analyzed the impact of wind tunnel blockages on the aerodynamic performance of a wing, using SolidWorks for geometric modeling and ANSYS for CFD analysis.

Aerodynamic Analysis of NACA0015 Airfoil May 2021 – June 2021

- Conducted aerodynamic simulations and performance analysis of the NACA0015 airfoil using QBLADE and ANSYS, focusing on lift, drag, and pressure distributions for various angles of attack.

RESEARCH PAPERS

73rd International Astronautical Congress, Co-author, Paris Nov 2021 - Sept 2022

- Vageesha S, Darpan B, Trisha A, Anshul Jain, Greeshma A, Rithwik R, "Study of Drag Characteristics of a Parachute for landing on planets and moons with different atmospheric conditions and its optimization using gases with varying properties".