**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-Space Control, PID Control, State Estimation, Kalman Filtering, Control System Design

**Automation & Robotics:** Embedded Systems, Real-time Systems, Sensor Fusion, Data Acquisition, HIL Testing

**Programming & Tools:** MATLAB, Simulink, Python, C, C++, R, ROS, Embedded C, Fusion 360, VS Code, Git

**Flight Control & Aerospace:** Aircraft & Spacecraft Dynamics, Performance & Stability, Avionics, System Optimization

**Hardware & Electronics:** PCB Design, Power Systems, Signal Processing, Mechatronics, Hardware Design

Take courses for the skills mentioned above!

**WORK EXPERIENCE**

**CU Boulder** Aug 2023 – May 2024

*Graduate Project – Hardware & Simulation Engineer, Boulder, CO*

* Designed and implemented an 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 a 0.5U module by evaluating performance criteria and documenting trade-offs, ensuring seamless system integration and function validation.
* Developed a Digital Sun Sensor model in C++ using Basilisk framework to enhance the simulation environment, contributing to improved orientation tracking.

**AIRBUS** June 2022 - Aug 2022

*Flight Control Intern, Bengaluru, IN*

* Developed 6 DOF State-Space model and PID Controller for the YAK-54 aircraft using MATLAB and Simulink to analyse system stability, enabling accurate assessment through poles and zero analysis.
* Simulated aircraft performance by modeling key flight parameters such as pitch rate, pitch angle, position and altitude, optimizing system stability using feedback from Gyroscope and Accelerometer transfer functions.
* Collaborated with a cross-functional team to refine flight control strategies, improving aircraft manoeuvrability and contributing to system-wide performance optimization.

**PROJECT EXPERIENCE**

Go through the notes of 5044. Understand the concept overview. Understand the final project. Go through the project repo and understand the flow. Describe that project here.

**LEADERSHIP EXPERIENCE**

**CU Boulder** Aug 2023 – Present

*Teaching Assistant, Boulder, CO*

* Conducted laboratory sessions assisting students in implementing theoretical concepts through hands-on experiments, leading to improved comprehension and practical problem-solving skills.
* Managed and optimized lab workflows for over 50 students weekly by structuring experiment modules, ensuring seamless execution, and enhancing student engagement.
* Provided one-on-one academic support through office hours for addressing academic challenges, clarifying complex concepts and improving student exam performance.

**Team Antariksh, R. V. College of Engineering** Oct 2019 – Aug 2022

*Recovery Sub-System Engineer, Bengaluru, IN*

* Designed and tested a dual-parachute recovery system for sounding rockets reaching up to 10,000 feet, ensuring successful and stable descent through aerodynamic optimization.
* Mentored new team members by providing training on software tools and parachute system design, accelerating their integration and contributing to overall team efficiency.
* Conducted CFD analysis and ground testing to refine parachute dynamics, incorporating spill holes to minimize wobble and lateral drift for improved recovery reliability.