M C Mohith

mohithmaddurchennakrishna@gmail.com | +49 15510941978 | LinkedIn: MC Mohith

Profile Summary

Space Engineering master's student with an aeronautical engineering background and hands-on experience in UAV design, CFD simulation, CATIA-based modelling, and experimental flow visualization. Skilled in aerodynamics, propulsion fundamentals, spacecraft systems, and structural analysis. Proven capability to lead technical projects and manage full design-to-analysis workflows, producing clear technical documentation. Key interests include propulsion systems, space systems engineering, and structural modelling for aerospace applications.

Technical Skills

Software
Simulation: CATIA V5, ANSYS Fluent, SolidWorks, XFLR5, MATLAB, Simulink
Programming: Python (NumPy, Pandas, Matplotlib), MATLAB scripting
Domains: Aerodynamics, CFD, Flight Mechanics, Space Systems Basics, Structural Analysis, UAV Design
Languages: English (IELTS 7.0), German (B1), Kannada, Hindi, Telugu

Work Experience

Hindustan Aeronautics Limited (HAL), Bengaluru — Intern, Overhaul Division Aug 2023 – Sep 2023

- Assisted overhaul of KIRAN Mk-II hydraulic, landing gear, and electrical subsystems
- Supported functional checks and flight control inspections under airworthiness protocols
- Reviewed maintenance manuals (AMM), inspection procedures, and troubleshooting workflows
- Observed NDT processes, calibration steps, and structural restoration activities
- Participated in system calibration tasks and leak-detection testing
- Gained exposure to documentation practices, defect reporting, tool usage, and shop-floor safety regulations
- Collaborated with technicians and engineers to understand workflow sequencing and component reinstallation

Key Outcomes:

- Strengthened practical understanding of aircraft maintenance, inspection cycles, and system diagnostics
- Developed familiarity with airworthiness inspection practices and certified aviation maintenance environments

Projects

Switch UAV based on SLAM Network — Team Leader
Led the end-to-end design and analysis of a hybrid fixed-wing VTOL UAV with a 2 m wingspan and a 250 g payload capacity.

- Complete 3D modelling using CATIA V5
- Structural and stress analysis using ANSYS
- CFD visualization including velocity flow, pressure contours, and streamline behaviour
- Airfoil evaluation using XFLR5
- Studied multimode operation (VTOL + forward flight)
- Managed full documentation and supervised a 4-member team

Key Outcomes:

- Improved aerodynamic efficiency and stability
- Generated validated CFD results with reduced flow separation
- Delivered complete UAV design package suitable for harsh-environment missions

Publication:
"A Review on Design and Analysis of Switch UAV based on SLAM Network," IARJSET (2024) DOI: 10.17148/IARJSET.2024.117116

Flow Visualization Setup — Lead Designer Analyst
Designed and fabricated an experimental setup to visualize airflow patterns and validate aerodynamic behaviours.

- Built dye- and smoke-based visualization rig
- Captured laminar–turbulent transition, vortex formation, and wake structures, Identified separation points and wake characteristics.
- Conducted CAD design using CATIA and coordinated fabrication and testing

Education

University of Bremen, Germany *Oct 2025 – Present*
M.Sc. Space Engineering
Current focus: aerodynamics, propulsion fundamentals, spacecraft systems, structural modelling, CFD, MATLAB simulation.

Visvesvaraya Technological University, India *Aug 2020 – Jul 2024*
B.E. Aeronautical Engineering CGPA: **8.52 / 10.0**

AICTE Recognized Initiatives

- Conducted outreach and demonstrations on drone applications in agriculture, including precision spraying and farmer awareness
- Led community digital-transformation programs (Digital India) and guided residents in adopting digital financial systems (UPI, QR payments)
- Organized environmental and energy-awareness activities including One Student One Tree and household conservation drives

Certifications

CATIA V5 Beginner to Advanced — Udemy (2024)
German Language Certificate (B1) — Learning Tree (2024)
Intermediate Python — DataCamp (2025)