

SUSHYANTH GALI

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Aerospace engineer with hands-on industry experience in UAV design, manufacturing, and regulatory certification. Skilled in end-to-end product lifecycle management — from CAD design and FEA analysis to vendor sourcing and DGCA certification. Currently pursuing an M.Sc. in Aerospace Engineering, with research focused on GNSS-based aircraft glide path generation.

PROFESSIONAL EXPERIENCE

NextLeap Aeronautics Pvt. Ltd.

Design Engineer

Bengaluru, India

August 2023 – March 2025

Leap A10 – Agricultural Spraying UAV

- Designed and developed drone components using CATIA V6 under the 3D Experience platform.
- Led mechanical and electrical integration of the full UAV system.
- Managed DGCA TYPE certification process, preparing all regulatory documentation and coordinating NABL lab testing (temperature, shock, EMI/EMC).
- Reduced BOM costs by **30–40%** through strategic vendor sourcing for metal, carbon fibre, and electronic components.
- Established customer support process for Leap A10 and other agricultural drones, improving client satisfaction and operational efficiency.
- Represented the company at agricultural expos and UAS exhibitions (including DRDO Bhavan).

TR-50 Thrust Stand

- Co-designed a thrust stand capable of measuring up to 50 kg thrust and 30 Nm torque for motor-propeller testing.
- Integrated RPM, temperature (motor & ESC), voltage, current, and vibration measurement systems with variable sampling rates.
- Designed metal and plastic parts using CATIA V6; contributed to design optimisation and testing phase.

100 kg Thrust Bench for Jet Engine Testing

- Independently designed the full structure from scratch for AMT Titan gas turbine engine testing (100 kg thrust capacity).
- Performed FEA structural analysis using PrePoMax (open-source); selected materials and components; led successful build and customer delivery.

FPV Drone Project

- Designed drone frame using Fusion 360 and developed the first prototype; contributed to mechanical and electrical integration and initial flight testing.

Manufacturing Intern

March – May 2023

MedVTOL UAV

- Manufactured and repaired carbon fibre UAV parts using Resin Infusion and Wet Layup techniques.
- Assisted with CAD modelling and 3D printing of UAV components.

Design Intern

September 2022

Solar VTOL UAV

- Developed conceptual design and mass distribution plan for a solar-powered Tail Sitter VTOL UAV; created full CAD model in SolidWorks.

EDUCATION

M.Sc. in Aerospace Engineering

Sept 2025 – 2027 (Expected)

Vilnius Gediminas Technical University (VILNIUS TECH), Lithuania

Thesis (In Progress): Aircraft Glide Path Generation Using Single-Frequency GNSS System

B.E. in Aerospace Engineering

2020 – 2023

RV College of Engineering, Bengaluru CGPA: 7.56

Project: Design & Evaluation of a Thrust Bench for High-Thrust Motors; Surveillance Airship Design

Diploma in Aeronautical Engineering

2017 – 2020

Acharya Polytechnic, Bengaluru 81.9%

Project: Morphing Quadcopter for Disaster Management

ACADEMIC EXPERIENCE

Team Vyoma – Technical Club, RV College of Engineering

Bengaluru

Design Engineer

Jan – Dec 2023

- Designed RC planes and UAVs in SolidWorks with focus on aerodynamics and structural optimisation.
- Contributed to conceptual design of an amphibian firefighting aircraft for the NACDeC-V competition.

Technical Engineer

Dec 2022 – Feb 2023

- Collaborated on advanced RC aircraft development, bridging theoretical knowledge with practical application.

Design Trainee

Jul 2021 – Jan 2022

- Gained proficiency in aerodynamics, XFLR5, and SolidWorks; fabricated balsa planes and quadcopter UAVs.

ACADEMIC PROJECTS

Design & Evaluation of Custom Thrust Bench for High-Thrust Motors

Mar – Jun 2023

- Designed and fabricated a custom thrust bench for E-VTOL motors (up to 100 kg); verified structural integrity via CAD modelling and FEA.
- Successfully tested with a 100 kgf BLDC motor, obtaining all required performance data.

Surveillance Airship Design

Apr – Aug 2022

- Developed conceptual design for a non-rigid surveillance airship: 200 g payload, ~4-hour endurance.
- Selected GNVR aerodynamic profile and recommended PU Coated Nylon as envelope material.

Morphing Quadcopter for Disaster Management

Aug 2019 – Mar 2020

- Built a quadcopter with adaptive morphology to navigate narrow gaps using visual-inertial sensors.

CONFERENCES & ACHIEVEMENTS

- Attended the **DELTA Airship Conference at IIT Bombay** – gained insights into airship technology and networked with international experts.
- Represented NextLeap Aeronautics at multiple **UAS exhibitions**, presenting products and UAV innovations to industry professionals.

SKILLS

CAD / Simulation	CATIA V5/V6, SolidWorks, Fusion 360, Ansys (Fluent, Structural), PrePoMax (FEA), XFLR5, Mission Planner
Manufacturing	Composite Fabrication (Resin Infusion, Wet Layup), 3D Printing, Prototyping, Quality Control
Systems & Cert.	UAV Integration & Testing, Documentation, Vendor Sourcing
Tools	MS Office Suite, LaTeX, Affinity, Canva
Soft Skills	Cross-functional Collaboration, Problem Solving, Attention to Detail, Communication, Team Leadership