Goutham Shimoga Umesh

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EDUCATION

Arizona State University, Tempe, AZ Cumulative GPA: 3.37
Master of Science in Aerospace Engineering Jan 2024 – Expected Dec 2025
Relevant Courses: Applied CFD, Aerodynamic and Fluid Mechanics, Autonomous Vehicle Engineering, Unmanned Aerial Systems

MVJ College of Engineering, Bengaluru, India Cumulative GPA: 3.96
Bachelor of Engineering in Aeronautical Engineering Apr 2019 – Jun 2023

PROFESSIONAL EXPERIENCE

Hindustan Aeronautics Limited – Aircraft Research and Design Center **Bengaluru, India**
Design Intern, Regional Aircraft Development Mar 2023 – May 2023

- Led the conceptual design and performance analysis of a Regional Transport Aircraft (RTA), attaining 15–20% shorter takeoff and landing distances compared to similar aircraft, enhancing efficiency and accessibility.
- Developed and analyzed a 3D wing model using NACA 64-108 airfoil, securing a 15–25% lighter wing mass, improving payload, and reducing fuel consumption.
- Refined performance sizing and integrated key parameters, realizing a 10% reduction in fuel burn, 10–15% lower engine maintenance costs, and 8–12% enhanced thrust-to-fuel efficiency with the PW150A engine.

Hindustan Aeronautics Limited – Advanced Light Helicopter Division **Bengaluru, India**
Aerospace Engineering Intern, Final Assembly Unit Mar 2023 – Apr 2023

- Executed in-depth structural analysis of key helicopter components, including the Advanced Light Helicopter (ALH) and Light Combat Helicopter (LCH), maintaining compliance with operational safety and performance standards.
- Gained expertise in missile targeting systems and joystick calibration, employing advanced laser precision techniques to achieve a 20% increase in targeting accuracy.
- Collaborated with cross-functional teams to support optimizing helicopter systems for superior mission-specific performance.

Air India Engineering Service Limited – Overhaul Division **Mumbai, India**
Avionics Systems Intern Sept 2022 – Oct 2022

- Assessed and serviced avionics systems on Boeing 737, 777, and 787 aircraft, ensuring optimal functionality through detailed system analysis, while contributing to the development of technical documentation to standardize diagnosis.
- Applied ATEC diagnostics on 25+ cockpit avionics, resulting in a 10% improvement in aircraft operational readiness, identified by a senior technician as crucial for safety checks, and minimizing flight delays.

ACADEMIC PROJECT

Analysis of Multiphase and Aerodynamic Systems **ASU, Tempe, AZ**
Applied Computational Fluid Dynamics Oct 2024 – Dec 2024

- Conducted 25+ CFD simulations utilizing ANSYS Fluent and MATLAB to model thermal management systems, improving heat dissipation by 15% and reducing component failure rates.
- Examined aerodynamic performance of architectural models and UAVs, optimizing lift-drag ratios across varying conditions.

Design Point Estimation and Structural Analysis of Regional Transport Aircraft **HAL, Bengaluru, India**
Aircraft Research and Design Center Mar 2023 – Jun 2023

- Established comprehensive design point estimation for a Regional Transport Aircraft (RTA) using constraint analysis.
- Leveraged computational tools to determine over five key parameters—such as maximum take-off weight, wing area, and engine thrust—refined the design, and published the results as a journal paper.

Wind Tunnel Testing and Airfoil Performance Analysis **MVJCE, Bengaluru, India**
Incompressible Aerodynamics Mar 2020 – Jun 2020

- Drove a series of 15+ wind tunnel experiments focused on NACA airfoils, analyzing the complex interactions between shape, airflow, and pressure; presented findings to fix the three biggest causes of instability.

LEADERSHIP EXPERIENCE

- Lead Coordinator, Core Marketing Committee for VERTCHX, a national-level tech fest with 250+ participants.
- Director and Editor of 15+ videos for Raagabhinaya Theatre Club, focusing on storytelling and teamwork.
- Volunteer for Nakshatra-23, BHUMI NGO, contributing to educational and environmental initiatives.
- Organizer of a COVID-19 fundraiser, supporting 400+ disadvantaged families with rations and sanitary pads.

TECHNICAL SKILLS

- Software and Tools: ANSYS Fluent, MATLAB, CATIA V5, SolidWorks, Solid Edge, Siemens NX, Microsoft suite
- Programming Languages: Python, C, C++, JAVA basics
- Analysis and Design: CFD Simulations, Structural Analysis, Aerodynamic Optimization, GD&T
- Technical Proficiencies: Wind Tunnel Testing, 3D Printing, Avionics Diagnostics