Sachin Venugopal

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Professional Summary

Aerospace Engineer with a strong foundation in aerodynamics, propulsion, and computational modeling. Skilled in advanced tools such as AutoCAD, ANSYS, MATLAB, and Python, with practical experience in design, simulation, and testing. Proven ability to collaborate effectively within dynamic team environments and manage projects independently. Passionate about advancing aerospace technologies through innovative solutions and continuous learning.

Experience

Hindustan Aeronautics Limited (HAL) | Bengaluru, India
Summer Intern (June 2023 – July 2023)

- Participated in daily inspections of aircraft components, contributing to the documentation and quality assessment of over 15 mechanical parts across airframe and powerplant systems.

- Collaborated with a team of 6 engineers in the final inspection and pre-delivery stages, gaining insight into HAL's ISO-certified quality assurance processes.

- Observed NDT procedures on structural parts, including ultrasonic and dye penetrant testing.

Technical Skills

- AutoCAD/Fusion360
- STK(AGI)
- C/C++
- Arduino Programming
- Ansys(CFD, Structural)
- MATLAB/Simulink
- MySQL
- IBM Maximo
- PTC Creo Parametric
- Python
- Microsoft Office

Education

B.Tech - Aerospace Engineering | Minor in Aircraft Maintenance
Lovely Professional University, Punjab, India
Graduated: June 2025

CBSE Class XII (PCM)
Scholars Indian School, Ras Al Khaimah, UAE
Percentage: 95.6%

CBSE Class X
Scholars Indian School, Ras Al Khaimah, UAE
Percentage: 96%

Soft Skills

- Clear and concise communication, both written and verbal.
- Analytical thinking to identify root causes and create solutions.
- Ability to work effectively in multicultural and cross-functional teams.
- Thriving in dynamic, fast-paced environments.

- Ability to pick up and apply new skills efficiently.

Website, Portfolio and Profiles

- https://www.linkedin.com/in/sachin458/

Certifications

- Ansys Simulation Course Completion Certificate, Issued by Ansys – Fluid Flow, Structural, and Thermal Analysis using Fluent and Discovery.
- MATLAB Training Course Completion Certificate from MathWorks
- SIMULINK Onramp Training Course Completion Certificate from MathWorks
- IBM Maximo for Aviation Foundational Certificate from IBM
- STK Course Completion Certificate
- Certified in Digital Marketing by Google

Projects

- **CFD Analysis of a Dimpled Wing Using NACA Airfoil 0018:** Conducted computational studies to evaluate aerodynamic performance.
- **Fabrication and Wind Tunnel Testing of a Dimpled Wing:** Fabricated a scaled NACA 0018 dimpled wing and conducted over 10 wind tunnel tests, observing a 6–8% drag reduction over baseline models.
- **Pulse Detonation Engine Patent:** Published a patent focusing on a bluff body wake stabilizer and enhanced deflagration-to-detonation transition device.
- **Comparative Analysis of Pulse Detonation and Rotating Detonation Engines:** Authored a research paper on detonation technologies.
- **Investigating Combustion Chamber Length and Fuel Injection in Pulse Detonation Engines:** Developed a working model and analyzed performance variations.

Extracurricular Activities

- Presented a research paper at the International Conference on Sustainable Aerospace Technologies and Innovations 2025 (ICSATI-25), VIT Bhopal, India.
- Presented a working model of a Pulse Detonation Engine at INNOTEK-2025, demonstrating innovative propulsion technology to Industry experts.
- Attended the International Conference on Advancements in Aerospace Engineering (ICAAE-24).
- Participated in ISRO Workshop on Upcoming Space Missions.

Language

English
Proficient (C2)

Malayalam
Proficient (C2)

Hindi
Intermediate (B1)

Arabic
Elementary (A2)