Prashant Prasar

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Education

Tribhuvan University, *Apr. 2021 – Mar. 2025*
Institute of Engineering, Pulchowk Campus
BE in Aerospace Engineering

- Percentage: 76.34%
- **Coursework:** Aircraft Design, Compressible Aerodynamics, Computational Fluid Dynamics

Experiences

Intern- Structure Design *Bangalore, India*
Airbus India *Jul. 2025 – present*

- Topology Optimization of Machiened Brackets. Reduced weight of Aluminium components by 1.3Kg (28%) DfM, Drawings and BoM creation.
- Design of Sheetmetal & Composite Components with manufacturing requirements.

CAD Designer *Kathmandu, Nepal*
STEM Karyashala Pvt. Ltd. *Dec. 2024 – Mar. 2025*

- Designed STEM products for 3D-printing and laser-cut manufacturing.
- Worked as a 3D printer troubleshooting and repair consultant.

Engineering Intern *Kanpur, India*
Flight Laboratory, IIT Kanpur *Sept. - Oct. 2024*

- Development and Testing of matlab App for integration of Xplane flight model with simulink using UDP communication protcol.

Service Learner *Kathmandu, Nepal*
Engineers Without Borders Nepal *Oct. 2023 – Jul. 2024*

- Worked as 3D modelling and printing trainer for fundraiser events.
- Conducted 13 free training camps for public school STEM Facilitators.

Publications

Design, Fabrication and Structural Analysis of a UAV Wing Employing Modern Materials and Manufacturing Methods. IOE Graduate Conference 2024

Abhishek Bhandari , Sudip Bhattarai , Laxman Poudel, ***Prashant Prasar***

Projects

Design, Fabrication and Characterisation of Piston Driven Supersonic Shock Tube.
BE Final Year Project

- Designed and built a supersonic shock tube using stainless steel, incorporating a custom pressure measurement system for Mach number diagnostics
- Developed and tested a custom pressure transducer capable of 100,000 samples/sec in multi-atmospheric ranges using the NI 6341 DAQ system.
- Implemented the Schlieren imaging technique to visualize shock wave formation and flow characteristics within the driven section.
- Tools Used: LABVIEW, NI DAQ, Chronos 2.1 Highspeed Camera, MATLAB

Design and Analysis of an Amphibian Passenger carrier Aircraft
Design Project- Aircraft Preliminary Design

- Designed a twin-propeller, 18-seat amphibious aircraft capable of land and water operations.

- Conducted simulator-based testing in X-Plane, analyzing performance and handling using the Cooper-Harper Scale.
- Tools Used: Xflr5, OpenVSP, Xplane, MATLAB

Comparison of 2D aerodynamic coefficients of morphing trailing edge flap with a hinged flap.
Research Project

- Compared aerodynamic performance between a conventional hinged flap and a morphed trailing edge flap, focusing on key coefficients such as lift and drag using CFD analysis in ANSYS Fluent.
- Tools Used: ANSYS Fluent

Competitions

AIAA DBF 2024
Team leader for university team, Design Lead.
22^{nd} in Proposal ranking and 38^{th} in Design report ranking.

- Led a multidisciplinary team in designing a remote-controlled aircraft for the 2024 AIAA DBF competition, focusing on emulating electric passenger aircraft in an urban air mobility scenario.
- Coordinated team efforts in simulation, structural analysis, and subsystem testing, contributing to the team's high proposal and design report rankings despite not participating in the physical flyoff.

TechFest Aeromodelling Competition 2023
IIT Bombay, qualified in top 30

- Collaborated with the team in optimizing the aircraft's aerodynamics and flight performance, ensuring compliance with competition specifications.
- Successfully qualified among the top 30 teams out of over 100 entries, demonstrating strong problem-solving and teamwork skills.

AIAA DBF 2023
CAD Lead & Landing Gear Design lead, Manufacturing

- Led the design and integration of the landing gear system for a mission-specific RC aircraft aligned with AIAA DBF 2023 requirements, which emphasized aircraft capable of transporting humanitarian aid.
- Developed detailed 3D CAD models of the airframe and subsystems using CATIAv5, ensuring structural feasibility and manufacturability.
- Tools Used: CATIA v5, 3D printing, Laser Cutting.

Skills

MATLAB, LabVIEW, Xplane, CATIAv5 (DfM, DfA, GDnT) Altiar Inspire, ANSYS (Fluent, Static Structural), OPENFOAM, Xflr5, OpenVSP, LaTex