Krishna Dhakal

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Education

University of Strathclyde Expected Graduation: 2028
BEng (Hons) Aero-Mechanical Engineering Average: **77%**
Awards: Dean's List (2024/25), Distinction (2025/26)
Relevant Modules: Engineering Mechanics (80%), Mathematical Modeling (76%), Materials Engineering (89%)

Skills

CAD/CAM: SolidWorks, EDGECAM
Simulation & Analysis: Ansys Fluent, Ansys Mechanical
Manufacturing: FDM 3D Printing, CNC Machining, Carbon Composite Layups
Software & Programming: MATLAB, C++, Python, MS Office (Excel, Word, Powerpoint)

Projects

RC Cargo Aircraft | *University Project, Team of 7* Sept 2026 – Present

- Led wing design, selecting a Clark-Y aerofoil and chord length based on peak lift, drag, and L/D ratios across operating Reynolds numbers.
- Created a parameterised MATLAB script to model take-off speed, distance, and thrust for propeller selection, wing sizing, and weight optimisation within a 40 m runway constraint.

3D-Printed Open Wind Tunnel | *Personal Project, Team of 2* | *dhakal.co.uk/tunnel* Aug 2026 – Present

- Engineered a 100×100 mm test-section wind tunnel in SolidWorks, calculating a 1:6 ratio polynomial contraction cone to maximise airflow uniformity.
- Developing a parallel-motion flexure linkage integrated with a custom strain gauge load cell data acquisition system to isolate and measure lift and drag forces, targeting a force resolution of 0.1N.

Active Morphing Aerofoil, *Personal Project* | *dhakal.co.uk/aerofoil* Aug 2026 – Present

- Designed and 3D-printed a compliant-mechanism morphing aerofoil in PETG, achieving a preliminary 30° deflection without discrete hinges.
- Developing an internal actuation system driven by custom ESP32 C++ code and PWM servos.
- Simulating boundary layer behaviour and skin friction drag in Ansys Fluent to benchmark aerodynamic efficiency against a rigid baseline profile.

RC Buggy | *University Project, Team of 4* Sept 2024 – Apr 2025

- Machined metallic components to strict engineering tolerances utilising manual lathes, mills, press brakes, and drill presses.
- Redesigned the buggy chassis in SolidWorks, achieving a 25% theoretical mass reduction, and generated EDGECAM CNC toolpaths.

Engineering Experience

Human Powered Flight Society (HPFStrath) | *Member* Sept 2024 – Present

- Redesigned structural and aerodynamic components, including a propeller shaft fairing and belt tensioner mount, achieving an 11% weight reduction.
- Reverse-engineered a physical crankshaft into SolidWorks to verify assembly compatibility, and co-manufactured a carbon-fibre composite keyed propeller shaft using custom 3D-printed lay-up moulds.

National Flying Laboratory Centre (NFLC) | *Flight Testing Experience* Mar 2026

- Conducted airborne data collection aboard a Saab 340B test aircraft and performed hand calculations to evaluate longitudinal and lateral-directional dynamic stability modes.

Work Experience

Kantipur Restaurant | *Front of House Staff / Shift Lead* Oct 2023 – Sept 2026

- Reduced phone order call times by 30% by designing and implementing a new call-handling workflow.

McDonald's | *Crew Member* Nov 2025 – Sept 2026

- Worked front stations during peak rushes, keeping order assembly and handover times below store targets.

Additional Information

Mobility: Full UK Driving Licence
Interests: Landscape Photography, Personal Web Development, Functional 3D Printing
Languages: English (Native), Nepali (Native), Hindi (Conversational), Urdu (Conversational)
Certifications: CSWA (100%)