

Arun Koirala

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EDUCATION

Institute of Engineering, Thapathali Campus
Bachelors in Mechanical Engineering

Thapathali, Kathmandu
Apr 2021- 2025

SOS Hermann Gmeiner School
+2 Science

Sanothimi, Bhaktapur

TECHNICAL SKILLS

CAD Software: SolidWorks (CSWA-level)

[See credential](#)

Analysis Software: Ansys, XFLR5

Fabrication: CNC machine Operations, 3D Printing, CNC Laser cutting

- Customs Part Development for UAV's, robotics and other projects
- Knowledge of CNC machining operation, drilling, turning
- Experience with CAD/CAM software

UAV Operation:

- Mission Planning for surveillance using mission planner
- Custom autonomous flight algorithm

Programming & Control: UAV Mission Planner, Custom Flight Algorithms

Experience

Intern | Nepal Oil Corporation – Aviation Department (Sinamangal)

May 2024 – Jun 2024

- Assisted in aviation fuel handling and daily operations.
- Learned safety protocols, documentation processes, and aviation fuel distribution systems.

Freelance Work

- **Product Design – Restaurant Call Button Enclosure**
Designed the enclosure using CAD and 3D printed it for testing and use.
- **Product Design – Push Latch Mechanism**
Created a push latch design that is easy to use, reliable, and simple to manufacture.

PROJECTS AND COMPETITIONS

Payload Delivery Fixed Wing UAV/ Final Year Project

Unmanned Aerial Vehicle for payload delivery with the range of 15-20 km

- Design and fabrication of UAV
- Custom mission plan for payload delivery
- Calculation of aircraft performance

Electric Vehicle Project/Formula Bharat

Electric vehicle design for participating in Formula Bharat

- Chassis design and prototype building
- Performed theoretical calculations for vehicle dynamics, load distribution, and power requirements.
- Took part in the **overall design process**, including CAD modeling, performance estimation, and system integration.

Basic HVAC Layout for a Building

- Designed a basic HVAC layout for a small-scale residential building
- Focused on heat load estimation and simple duct routing.

Structural and CFD analysis of an Aircraft

- Geometric setup, meshing and boundary conditions setup done in Ansys
- One- Way FSI performed for structural analysis

Boeing Aeromodelling Competition/ Techfest, IIT Bombay

- Designed, prototyped and tested RC aircraft model
- Flown with 700 gm payload in the main event and ranked fourth

All Nepal CAD Design Competition/ KU 2024

- Designed and presented in the given topic
- Secured third position in the main event

Go-Kart

- Built Go-kart with two stroke engine of snow mower.
- Used a chain and sprocket drive as power transmission system.

POSITION of RESPONSIBILITY

Executive member | Robotics & Automation Center, Thapathali Campus [2022-24]

- Organized annual robotics exhibition, meetings, and member intake
- Represented the club in national and international robotic events
- Collaborated with different student bodies and campus for fundraising

Technical Manager | Team Shireto [2023-24]

- Collaboration with international/national teams for knowledge-sharing
- Conducted member intake and CAD/fabrication training

Trainer | Robotics & Automation Thapathali Campus [2024]

- Training on basic aircraft design principles and stability of aircraft
- Taught theory and XFLR S software for analysis of aircraft designs
- Aircraft component sizing and payload calculation

Grants & Recognition

NAST Research Grant – UAV for Delivery Purposes (2024)

Received a competitive grant from the **Nepal Academy of Science and Technology (NAST)** to develop an innovative UAV for autonomous payload delivery.
