

ASMIN SILWAL

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Education

Institute of Engineering- Pulchowk Campus

Electronics, Communication & Information Engineering

December, 2019 – June 2024

Lalitpur, Nepal

Relevant Coursework

- Digital Electronics
- Analog Electronics
- Digital Signal Processing
- Computer Architecture
- Embedded System
- Computer Programming
- Data Structure & Algorithms
- Communication System
- RF & Microwave Engineering

Experience

Hydro Lab

R&D Electronics Engineer

November, 2023 – January, 2025

Lalitpur, Nepal

- Architected and build Data Acquisition System(DAS) for the Fluid Pressure Sensor. Developed the Hardware for the system.

Early Earthquake Warning System(EEWS)

Embedded Engineering Research

September 2022 - March 2023

Lalitpur, Nepal

- Collaborative project with Duke University
- Built a system for seismic wave detection using a geophone sensor, ESP32 microcontroller, and an accelerometer MMA8451.
- Designed and built the Nodes that connect to Wi-Fi to transmit the Geophone sensor's vibration data.
- Modeled Geophone as LTI system in MATLAB

ABU Robocon 2022

Robotics, Electronics, Programming

November 2021 - September 2022

Robotics Club of Pulchowk Campus

- Became the Second Runner up of the competition, competing with the Universities of Asia-Pacific Region
- Architected the Electronics system of the Robots; Programmed the STM32F407 microcontroller; Worked on MPU6050, proximity sensor; Worked in communication between Robot and PlayStation Controller
- Designed and built the PCB for the Robots.

Projects

Autonomous Vehicle | *Vehicle CAN bus system, Zephyr RTOS, Embedded system*

Final year Major Project 2024

- Involved in building the Embedded system of a vehicle in Nepal, working on CAN bus system; Designed and Built STM32G4 microcontroller based 4-layer PCB.
- Worked on RTK GPS System for precise locating of Vehicle.

Ground Station for LoRa Based Satellites | *Antenna Design, LoRa Communication*

2023

- Built a Ground Station for LoRa based Satellites to receive the telemetry data.
- Task included designing a 433 MHz antenna, setting up communication with satellite and connecting the ground station to the worldwide network of similar ground stations through the internet.

Technical Skills

Programming Languages: C, C++, Python, HDL(Verilog, VHDL)

EDA Software: Multisim, LTSpice, KiCad, Altium Designer, Advanced Design System

Embedded System: Microcontroller based PCB Design(4 layers), Firmware Development for Microcontroller.

Electronics Equipment: Oscilloscope, Function Generator, Nano VNA

Leadership / Extracurricular

IEEE, IOE-Pulchowk Campus Student Branch

Secretary

January 2021- June 2022

Pulchowk Campus

- Responsible for administrative tasks and taking leadership roles on various programs and events organized by the student branch on the campus.
- Taught Basics of Electronics and Microcontroller in Hardware Fellowship-2022 and in RoboCamp-2023
- L^AT_EX Tutor -2023