




Nishan Poudel

Machine Learning and Backend Engineer.

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Education

- 2019-2023 Bachelor in Computer Engineering, Pulchowk Campus, Tribhuvan University**
Took AWS Enterprise Computing, Big Data and Data Science as Electives in final year.
74.10%
- 2016-2018 High School, Nepal Higher Secondary School**
- 2015 SLC Examination, Paragon Secondary School**

Skills

Languages: C++, Python, Javascript, Octave

Web-frameworks: FastAPI, Django

ML/DL frameworks: Pytorch, Sci-kit learn

PyData stack (Numpy, Pandas, Matplotlib, Jupyter, Sqlalchemy)

Tools: Git, Docker, Bash

Cloud familiarity: AWS (mainly RDS, Sagemaker and EC2.)

SQL (Worked with Postgres and postgis extensions for spatial databases)

Experience

Attended 3rd Winter AI School in Kathmandu (10 days AI Workshop)

Dec 2021

organized by NAAMII, Nepal

Backend Intern at Sireto Technology

Dec 2022 - Jan 2023

Worked with FastAPI and Pytest on a forms data aggregator project.

ML Intern at Naamche

Jan 2023 - Mar 2023

Worked for a chatbot project called Mimir as Backend and Data Engineer.

Full Time Machine Learning Engineer at Naamche

May 2023 to May 2024

Worked on building real estate research applications using LLMs.

Projects worked on:

CLAIRE

Worked on data analysis on real estate properties, experimenting with LLMs to build a natural language interface on top of real estate data using RAG and the application backend using FastAPI.

Available at : <https://claire.staging.realpha.com>

Worked on during my full-time position as ML Engineer at Naamche.

GenA

Worked with OpenAI's API for prompt experiments to generate property descriptions and the backend side.

Worked on during my full-time position as ML Engineer at Naamche.

Available at : <https://gena.realpha.com>

Virtual Staging

A computer vision research project to furnish empty room using Generative AI. Worked with Stable Diffusion models for inpainting purposes. Experimented and finalized the entire image processing pipeline and deployed the application as a backend API.

Worked on during my full-time position as ML Engineer at Naamche.

Large Property Model (LPM)

A chatbot intended to answer questions about real estate. Worked on natural language to SQL, document preprocessing and indexing, experimented with different LLMs for planning and executing sub-tasks for a main query.

Worked on during my full-time position as ML Engineer at Naamche.

Mimir: Chat with your idols and make a mentor

Did Data Scraping, Cleaning and preprocessing before storing in a vector database for a RAG application.

Available at : <https://www.withmimir.com>

Worked on during my internship at Naamche.

Aawaj Augmentative Communication for ALS Patients using Nepali Text to Speech

Fine Tuned Google's Tacotron2 after making our own nepali speech dataset for text to speech model

Presented for a major project as undergrad requirement.

Music Emotion Recognition using Deep Learning

Mapping emotions from an audio file using CNN on audio spectrograph.

Presented for a minor project as undergrad course requirement.

Solving Snake Game using Search Techniques

Wrote a snake game from scratch and tried different types of graph search like BFS, DFS, Hamiltonian search to make an autonomous snake playing agent.

ICTC Web CMS Development

As a part of Software Engineering coursework, I was part of the team responsible for development of Content Management System for ICTC, Pulchowk website using Django framework.

Datasets released

GeoSQL LLM Evaluation Dataset

A small dataset for evaluating text-to-sql systems for geographical databases based on postgres.

Released on HuggingFace: <https://huggingface.co/datasets/naamche/geosql-llm-eval>

Worked on during my employment at Naamche.