NISHANT LUITEL

Graduated from Tribhuvan University

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EDUCATION

November 2019 - 2024

BACHELOR IN COMPUTER ENGINEERING(BCT)

Pulchowk Campus, Lalitpur

Tribhuvan University

Average Percentage: 80.07%

RELEVANT SKILLS

- Machine Learning library: Scikit-Learn, Jax.
- Deep Learning Frameworks: Pytorch, Tensorflow.
- Python Libraries: Matplotlib, Pandas, Numpy.
- Additional Skills: OpenCV, NLTK, SQL, Django, Javascript, React, AWS console, C, C++.

SELECTED PROJECT EXPERIENCE

2024 **IMAGE GENERATION** | CV Project

- Trained image generation model on datasets including CIFAR-10, Naruto-BLIP and Flickr-30k datasets based on Stable Diffusion Architecture. Trained VAEs and Denoising UNet separately for this purpose.
- Language/library used: **Pytorch, python**

2024 **NEPALI SPELLING CORRECTION** | NLP Project

- Implemented a context-based spelling correction system for Nepali using Nepali language model trained with transformers.
- Language/library used: **Pytorch, python**

2023 **LEDUC POKER** | AI Project

- Implemented AI bot for a simpler version of widely played Texas Holdem, known as **Leduc Poker.**
- Language/library used: **Python, numpy, Tkinter**

2022 **NEPALI LANGUAGE PROCESSING** | NLP Project

- Implemented NLP tasks including the Nepali Language Model (probabilistic and Neural methods), Sentiment Classification (Bert and raw architectures), and Word Embedding.
- Language/library used: **Pytorch, Scikit, python, Tensorflow**

2022 **MACHINE LEARNING FROM SCRATCH** | ML Project

- Implemented around 10 traditional(statistical) **machine learning algorithms** from scratch using only numpy and compared the result of using these algorithms with that of implementation from Scikit-learn on **benchmark datasets.**
- Language/library used: **numpy, matplotlib**

2021 **FOOTBALL ANALYSIS** | Data Structure and Algorithms Project

- Implemented **Pass Network**, **Match summary**, **Match highlights** (animation), **pitch control model** (animation showing control region) using Tracking data only.
- Language/library used: **Python, numPy, matplotlib, pandas**(created from scratch)

PAPERS/PUBLICATIONS

Contextual Spelling Correction with Language Model for Low-resource Setting | 2024
Nishant Luitel, Nirajan Bekoju, Anand Kumar Sah and Subarna Shakya
IEEE ICICT 2024
[pdf]

Can Perplexity Predict Finetuning Performance? An Investigation of Tokenization Methods on Sequential Language Models for Nepali | 2024
Nishant Luitel, Nirajan Bekoju, Anand Kumar Sah and Subarna Shakya
[pdf]

EXPERIENCE

Nov 2023 - Jan 2024 — **Research Intern** | NAAMII
Completed 3 months internship at **NepAl Applied Mathematics and Informatics Institute for research.**
Researched on Low-resource Chatbots and the application of LLMs on tabular data.

April 2024 - July 2024 — **ML Engineer Fellow** | GritFeat Solutions
Started an internship at **GritFeat Solutions** for the Machine Learning Engineer Fellow position.

August 2024 - Present — **Research Assistant** | NAAMII
Currently employed as a research assistant at TOGAI lab at NAAMII supervised by Dr. Bishesh Khanal

ADDITIONAL COURSES COMPLETED

- Stanford University: Artificial Intelligence: Principles and Techniques(**CS221-online**)
- Stanford University: Machine Learning with Graphs(**CS224W-online**)
- Tubingen University: Statistical Machine Learning (**by prof. U. von Luxburg-online**)
- Stanford University: Deep Multitask Learning and Meta-Learning(**CS 330-online**)
- AWS Academy Cloud Architecting: Certified by **credly** for successful completion of AWS Academy Graduate course- AWS Academy Cloud Architecting.
- Data Structure and Algorithms with Python**:** Certified by **Samsung** under **the Samsung Innovation Campus program for** completing a semester-long course with mandatory exams.

CONFERENCES/ NOTABLE PARTICIPATIONS

April 2024 — **7th International Conference** | ICICT 2024
Presented the paper **Contextual Spelling Correction with Language Model for Low-resource Setting** at the 7th International Conference on Inventive Computational Technologies organized by **IEEE** and **Tribhuvan University**.

Jan 2024 — **Techenergy** | LOCUS 2024
Tackled **energy forecasting** problems on **time series** data using models like **Random Forest Regressor**, **ARIMA**, **SARIMA,** and **Temporal Fusion Transformer(TFT)**.
Secured 1st Position!

Jan 2024 — **Data Verse** | LOCUS 2024
Organized a **Large Language Model based Information extraction** competition.

Jan 2023 — **Data Verse** | LOCUS 2023
Designed a **machine learning model** to tackle the subject classification of highly unbalanced datasets.
Won in the Data Insights category!

Jan 2022 — **Data Rush** | LOCUS 2021
Designed a **machine-learning model** to tackle the NLP classification task.