Neha Shrestha

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SUMMARY

Passionate, aspiring data scientist dedicated to continuous learning and research in technology. Committed to collaborative teamwork and mastering data science intricacies. Eager to contribute and evolve within dynamic team environments.

WORK EXPERIENCE

AI Researcher | DarviLab Pvt Ltd, Kathmandu March 2024-Present

- Researched the capabilities and limitations of **Large Language Models** to advance Natural Language Processing.
- Designed a **reverse-engineered pipeline** to collect diverse prompt pair datasets from various genres.
- Created a **fine-tuning pipeline** utilising techniques like **PEFT and LoRA** to adapt pre-trained language models to specific tasks and domains, resulting in enhanced performance and efficiency.

AI Fellowship 2024 | Fusemachines, Kathmandu April 2024-Present

- Chosen as **one of 100 participants** from thousands for a six month long AI fellowship program.
- Studied **machine learning topics** including linear/logistic regression, decision trees, SVM, clustering and more.
- Gained hands-on experience with deep learning neural networks like **RNNs and CNNs.**
- Utilised **PyTorch framework** to develop and train deep learning models.

Flutter Developer Intern | 101 Infotech, Kathmandu June 2021-Dec 2021

- Collaborated with the development team to **design, build and maintain** Flutter applications
- Developed mobile applications using the Flutter framework, gaining proficiency in **Dart** programming language and implementing fundamental Flutter concepts such as **stateful and stateless widgets** to create dynamic user interfaces through research and practice.

EDUCATIONAL QUALIFICATIONS

Tribhuwan University | Bachelors in **Computer Science and Information Technology** 2019-2024
Trinity International College

Cambridge Assessment International Education | **A-Levels** in Pure Science 2016-2018
Budhanilkantha School

Government of Nepal | **SLC** 2015
Meridian International School

TECHNOLOGIES

Python, Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn, SQL, HTML/CSS

PROJECTS

1. **Text-to-Image Generator | code**
   - Developed a Text-to-Image generator system based on the **Latent Diffusion Model**, leveraging **Python, PyTorch, VAEs and U-Net** to generate realistic images from textual prompts.
   - Implemented various **paper**s like **"High-Resolution Image Synthesis with Latent Diffusion Models"**, etc into application through **literature review**.

2. **Movie Recommendation System | code**
   - Created a **content-based recommendation system** that provides viewers with five choices for related movies based on the **Cosine Similarity Metrics** and the **Bag of Words** concept.

3. **Diabetes Prediction System | code**
   - Modelled data on various machine learning models like **Support Vector Machine, Logistic Regression, KN Neighbors, Decision Tree Classifier, Random Forest Algorithm and Naive Bayes Classifier**.
   - Compared the **accuracy metrics** for each algorithm to learn about their strengths and weaknesses.

4. **Sentiment Analysis on Amazon Reviews | code**
   - Conducted **sentiment analysis** on Amazon reviews using **NLTK, Vader, and Roberta pretrained model**, with visualisations illustrating the sentiment distribution across reviews.

5. **Titanic Survival Prediction | code**
   - Utilised **Exploratory Data Analysis (EDA)** techniques in Python to analyse and provide **insightful visualisations.**
   - **Handled outliers** and **predicted missing values** using **Linear Regression.**