Rupesh Ghimire

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EDUCATION

Pashchimanchal Campus, *Bachelors in Computer Engineering* | Pokhara *2019-2024*
Relevant Coursework: Data Structures & Algorithms, Artificial Intelligence, Database Management System, Software Engineering, Engineering Mathematics, Big Data, Image Processing and Pattern Recognition, Computer Networks.

Fusemachines, *Micro-Degree in Artificial Intelligence* *2023-2024*
Relevant Coursework: Machine Learning, Supervised Learning, Unsupervised Learning, TimeSeries Analysis, Deep Learning, CNN, RNN, Neural Attention, Transfer Learning, Fine Tuning, Computer Vision, Object Recognition, Segmentation, Natural Language Processing, Embedding Models, Language Models, Transformers, n-GRAM, Text Data Analysis.

EXPERIENCE

Machine Learning Mentor, Pachchimanchal Campus - iCES Club *Jan 2024 - Feb 2024*
Keywords: Machine Learning, Data Analysis, Data Manipulation **Tools:** Numpy, Pandas, Sci-kit Learn, Colab

- Collaborated with mentors to develop a systematic curriculum for over 20 students for Python, OOP, Data Manipulation, Data Analysis, and Machine Learning(Regression and Classification) with hands-on practice.
- Live Coded "Student's Marks Prediction" project and helped students build their own separate projects.

Django Mentor, Pachchimanchal Campus - iCES Club *Jan 2023 - Feb 2023*
Keywords: ORM, Database, Authentication, API, Rest Framweork **Tools:** Django, HTML5, Tailwind CSS,

- Developed a comprehensive course on Django including Python, Django, ORM, SQL Database, CRUD features, Templates and Tailwind CSS.
- Helped students build their projects using Rest Framework (REST API) having user authentication functionalities.

SKILLS

Programming Languages: Python, C, C++, JavaScript
Software Development: Django, Flask, React, Vanilla JS
Libraries and Framework: PyTorch, Numpy, Pandas, Sklearn, TensorFlow,
Database Systems: MySQL, SQLite3
Tools: Git, GitHub, MS Excel, Jupyter Notebook, Google Colab, VSCode, Canva, Figma, MS Office
Certifications: ML Specialization (DeepLearning.ai), Transfer Learning using TensorflowHub (Coursera), Advanced Django: Building A Blog (Codio), Deep Learning (Fusemachines)

PROJECTS

Sentiment Analysis in Nepali Language
Keywords: Text Data Manipulation, NLP, BERT **Tools:** HuggingFace, Spacy, NLTK, Flask

- Utilized Spacy and NLTK for Nepali text data preprocessing including text data cleaning, text analysis and so on.
- Finetuned a HuggingFace BERT variant model; NepBERTa and performed Transfer Learning
- Obtained 76% accuracy, deployed using Flask, used it for real-world news titles to find sentiments of the news article Link

Book Recommendor System
Keywords: Collaborative & Popularity Based Filtering **Tools:** Colab, Numpy, Pandas, SkLearn, Flask

- Performed data analysis using Python libraries, built a model with high accuracy using cosine similarity and deployed using Flask, templates and Tailwind CSS.
- Performed popularity-based filtering to recommend popular books and collaborative filtering to recommend books based on user's preferences. Link

Summarizer & QnA
Keywords: Transformers, Pipeline, Transfer Learning, Roberta, T5 **Tools:** HuggingFace, Transformer, Flask

- Utilized the power of transfer learning to build text-summarization (T5-Base model) and question-answer (Deepset/Roberta-Base-Squad2 model) application that summarizes and answers based on user's context. Link

Transformer Model Engineering
Keywords: Transformers, Neural Attention, Seq2Seq, Model Building, NLP **Tools:** Pytorch, Colab

- Explored Seq2Seq with neural attention for NLP, constructed a transformer model from scratch using PyTorch, following the principles outlined in the influential paper "Attention is All You Need." Seq2Seq Transformer