

RICHARD KHEWA LIMBU

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Summary

Computer Engineering graduate with experience in machine learning, deep learning, and backend development. Skilled in Python, PyTorch, and Django with interest in generative AI, NLP, and large language model applications.

Education

Khwopa College of Engineering
Bachelor of Computer Engineering

2021 - 2025

Skills

Programming Languages: Python

AI and Machine Learning: scikit-learn • PyTorch • Pandas • NumPy • LangChain • LangGraph

Backend Development: Django • Django REST Framework • FastAPI

Databases: MySQL • PostgreSQL • MongoDB

Tools: Git • GitHub • Jupyter Notebook • VS Code

Web: HTML • CSS

Soft Skills: Communication Skills • Adaptability • Teamwork • Problem Solving

Projects

1. Skin Lesion classification

GitHub: github.com/rich-aard/skin-lesion-classifier

- Fine-tuned ResNet18 (ImageNet pretrained) on the HAM10000 dataset to classify dermoscopy images across 7 skin lesion types.
- Achieved 84.2% validation accuracy.
- Addressed class imbalance via WeightedRandomSampler and applied data augmentation to improve generalization.

2. RAG Chatbot with PDF Upload & Chat History

<https://ragchatbot-232.streamlit.app/>

GitHub: github.com/rich-aard/RAG_CHATBOT

- Built a conversational document Q&A system using Retrieval-Augmented Generation (RAG).
- Implemented history-aware question rewriting, semantic chunking with similarity retrieval, and session-based chat memory.
- Integrated Groq (Llama 3.3 70B) for inference and embeddings via HuggingFace ('all-MiniLM-L6-v2').

3. Automatic Colorization of Grayscale Illustrations Using Cycle-Consistent Generative Adversarial Networks

Designed and implemented a grayscale manga colorization system using CycleGAN, in a team of four. Constructed a CNN classifier and an optimized training pipeline to enhance model performance.

4. Exploratory Data Analysis

Red Wine Quality and Google Play Store datasets

GitHub: github.com/rich-aard/Exploratory-Data-Analysis

- Cleaned and preprocessed data by handling missing values, removing duplicates, and standardizing formats using Pandas and NumPy.
- Performed correlation analysis and statistical testing to understand relationships between features and target variables.
- Created visualizations using Matplotlib and Seaborn to communicate data insights.

Experience

Sajilo Life Pvt. Ltd.

Django Intern

Pepsicola, Kathmandu

05/2025 - 08/2025

- Developed dynamic web pages using Django templating system and MVT architecture.
- Implemented user authentication and authorization using Django Allauth.
- Built CRUD operations using Django models and ORM.