

Ankit Katwal

Machine Learning and AI | PyTorch, NLP, RAG

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Summary

Machine Learning practitioner with hands-on experience building end-to-end AI systems — from a GPT-2 style Nepali language model trained on 6.4M rows to a production-ready RAG pipeline for AI governance documents. Skilled in PyTorch, NLP, and retrieval-augmented systems, with internship experience in tabular ML and a strong drive for applied AI research. Currently pursuing a Bachelor's in Information Technology.

EDUCATION

Model Institute of Technology

Sep 2024 - Present

Bachelor of Information Technology, Kathmandu

Relevant coursework: Deep Learning, Artificial Intelligence, Database Management, Computer Networks

Global School of Science (GPA 3.57)

2022 - 2024

+2 Science (Higher Secondary), Kathmandu

PROJECTS

Nepali GPT - GPT-2 Style Language Model

Mar 2026

- Built a GPT-2 style Nepali language model in PyTorch with multi-head self-attention, causal masking, a SentencePiece tokenizer, and autoregressive generation.
- Trained on 6.4 million Nepali-text rows and reached ~60 perplexity with stable convergence on an RTX 3050 4GB in ~4 hours using float16, gradient accumulation, cosine decay, and top-k sampling.

AI Governance and Open-Model Compliance - RAG System

Apr 2026

- Built a RAG pipeline for AI governance and compliance documents using layout-aware PDF parsing, hierarchical chunking, and Qdrant vector search.
- Improved retrieval quality with dense-retrieval evaluation, metadata-aware chunking, structured preprocessing, and retrieval precision metrics to refine chunking and embedding choices.

EXPERIENCE

Codeveda Technologies | Machine Learning Intern, Remote

Feb 2026 - Mar 2026

- Built tabular classification pipelines using scikit-learn and XGBoost, handling data preprocessing, feature engineering, and model evaluation within a team workflow.
- Iterated on model experiments using Git-based version control, comparing performance across classifiers to select optimal configurations.

TECHNICAL SKILLS

Languages: Python, C

ML/AI: PyTorch, Transformers, NLP, CNNs, Computer Vision, RAG

Data/Tools: Pandas, NumPy, Matplotlib, MySQL, Git, Qdrant

LEADERSHIP & CERTIFICATIONS

College Representative, Code for Change

2026 - Present

- Promote Code for Change programs on campus and encourage student participation in social-impact and technology-driven initiatives.

Certifications: Annual Nepal AI School (ANAIS, NAAMII) | Machine Learning Specialization (DeepLearning.AI) | CS50x (Harvard University) | Kaggle: Intro to Machine Learning, Pandas, Intermediate Machine Learning, Data Visualization, Feature Engineering