

Ankush Patil

Machine Learning • NLP • LLM Finetuning • Deep Learning • Transformers

Machine Learning Engineer specializing in NLP, deep learning, and LLM finetuning with hands-on experience building RAG systems, custom Transformers, and scalable ML pipelines. Experienced in LLaMA finetuning, embeddings, and end-to-end ML workflow design.

India | Machine Learning Engineer

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SKILLS

Languages: Python, C++, SQL | **Libraries/Frameworks:** PyTorch, Scikit-Learn, Pandas, NumPy, OpenCV, Hugging Face | **Tools:** FastAPI, Git, Linux, Jupyter, VS Code | **Core:** NLP, LLM Finetuning, Transformers, Embeddings, RAG, Deep Learning, Model Evaluation

EDUCATION

Year	Degree / Board	Institute	GPA / Marks
2021	B.E. Civil Engineering	K.K. Wagh I.E.E.R., Nashik	CGPA: 7.88
2017	HSC (Science)	K.T.H.M College, Nashik	73%

EXPERIENCE

SITE ENGINEER

FEB 2023 – NOV 2025

Charwak Engineers & Developers, Nashik (Onsite)

- Supervised construction activities ensuring adherence to approved drawings, specifications, and safety standards.
- Strengthened analytical thinking, structured problem-solving, and handling real-world execution constraints.

PROJECTS

WIKIPEDIA RAG + LLAMA FINETUNING [CODE]

LLM | SEP – OCT 2025

Tech: PyTorch, LLaMA, LoRA, RAG, FAISS, SentenceTransformers

- Developed a complete RAG pipeline with optimized chunking and embeddings; fine-tuned LLaMA using LoRA for factual QA improvements.
- Demonstrated consistent reduction in training loss and improved factual answer coherence.

TRANSFORMER ENGLISH→HINDI (FROM SCRATCH) [CODE]

NLP | AUG – SEP 2025

Tech: PyTorch, Custom Attention, Positional Encoding, Masking, Beam Search

- Implemented a complete Transformer Encoder–Decoder architecture from scratch with custom attention and decoding strategies.
- Achieved BLEU 49.76 on English→Hindi translation and deployed the model on HuggingFace for reproducibility.

IMPLEMENTATIONS FROM SCRATCH [CODE]

ML + DL | AUG 2024 – JUL 2025

Tech: NumPy, PyTorch, Custom Models

- ML:** Linear/Logistic Regression, Naive Bayes, Oblique Trees, GMM, PCA, L1-SVM, Bagging, XGBoost.
- DL:** Neural Networks, CNNs, RNNs, LSTMs, VAEs, BPE Tokenizer, Word2Vec.

AMAZON REVIEWS NLP PIPELINE [CODE]

NLP | JUL – AUG 2025

Tech: BART, TF-IDF, Aspect Mining, Topic Modeling

- Built a large-scale NLP pipeline for 3M+ reviews including sentiment analysis, aspect extraction, and transformer summarization.

PLANT DISEASE DETECTION (RESNET18) [CODE]

CV | APR – JUN 2025

Tech: PyTorch, ResNet18, OneCycleLR, Grad-CAM

- Built a ResNet18-based classification pipeline with Grad-CAM explainability across 38 disease classes.

CREDIT CARD FRAUD DETECTION [CODE]

ML | FEB – MAR 2025

Tech: Isolation Forest, PCA, UMAP, GMM, DBSCAN

- Implemented hybrid anomaly detection models; Isolation Forest delivered the strongest precision–recall performance.

SPAM SMS CLASSIFIER [CODE]

NLP | FEB – MAR 2025

Tech: TF-IDF, Logistic Regression, Naive Bayes, GDA

- Built a TF-IDF + Naive Bayes/LogReg pipeline achieving strong recall on high-impact spam patterns.

STUDENT PERFORMANCE PREDICTION [CODE]

ML | JAN – FEB 2025

Tech: PCA, SVM, Gradient Boosting, Stacking

- Created a stacked regression model achieving an R² of 0.90 for academic score prediction.