Lakshya Bhaintwal

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Education

Manipal Institute of Technology Aug 2023 – May 2027
B.Tech in Electronics and Communication Engineering *CGPA: 8.00*

Technical Skills

Languages: Python, C++, SQL, Bash, HTML/CSS, JavaScript
Frameworks/Tools: PyTorch, TensorFlow, MXNet, FastAPI, Flask, SQLAlchemy, Git, PowerBI
Domains: Deep Learning, NLP, OCR, LLMs, Computer Vision, Transformers, RAG, CRNN, ALPR

Experience

IIT Roorkee May 2025 – July 2025
Artificial Intelligence Research Assistant *Roorkee, Uttarakhand*

- Developed CNN-LSTM, I3D, and C3D architectures for video-based human activity recognition on large-scale datasets.
- Optimized transformer-based temporal models, improving inference throughput by 20% on Kinetics-400.
- Engineered scalable preprocessing and feature extraction pipelines for real-time video classification.

Linear AmpTech May 2024 – Aug 2024
Machine Learning Intern *Roorkee, Uttarakhand*

- Engineered an end-to-end ALPR pipeline combining YOLO-based detection and CRNN-based OCR for edge deployment.
- Migrated and optimized models to TensorFlow Lite for Jetson Nano and Edge TPU, enabling efficient on-device inference.
- Curated and expanded dataset (5×) to improve robustness across lighting and angles, achieving 95%+ OCR accuracy.

Projects

LawTuned-Mistral: Legal Domain LLM | Python, PyTorch, Hugging Face, FAISS, Flask Apr 2025 – Jun 2025

- Fine-tuned Mistral 7B using QLoRA on domain-specific legal datasets to build a high-accuracy legal QA system.
- Integrated Retrieval-Augmented Generation with FAISS for efficient semantic search and context-aware responses.
- Designed an inference pipeline reducing hallucinations and improving answer relevance in complex legal queries.

EzResume: JD-Aware Resume Generation System | Next.js, React, Gemini API Mar 2026

- Designed a JD-aware resume generation system that tailors resumes dynamically by extracting role-specific requirements and aligning content to maximize ATS compatibility (80+ score).
- Integrated Gemini API to provide intelligent bullet point enhancement, ATS keyword optimization, and contextual resume suggestions while maintaining user-provided factual integrity.
- Developed a dynamic LaTeX editor and PDF rendering pipeline for live preview and export, ensuring ATS-friendly formatting with a clean, recruiter-optimized layout.

Programs

Amazon Summer School Aug 2025 – Sept 2025
Selected Participant *Remote*

- Selected through a competitive national-level screening process for Amazon's engineering training program.
- Strengthened algorithmic problem-solving by implementing optimized data structures and complexity-driven solutions.

Leadership

IEEE Student Branch Manipal Sep 2024 – Present
ML and Research Head *Manipal, Karnataka*

- Led ML initiatives and mentored 50+ students through workshops, projects, and hackathons.
- Organized technical sessions to promote hands-on AI/ML learning and research-driven development.