

# GAURAV PATIL

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🌐 [LinkedIn](#)

🐙 [GitHub](#)

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## Education

**SIES Graduate School of Technology**

**Aug 2023 – Jun 2027**

*B.E. Artificial Intelligence & Machine Learning - CGPA: 8.57/10*

*Mumbai, India*

## Experience

**Pioneer Machines & Automation Pvt. Ltd — AI Intern**

**Jun 2025 – Aug 2025**

- Used Vertex AI and PubMed datasets for medical document analysis including data scraping, chunking, image matching, and ML pipeline setup.
- Built retrieval workflows and structured processing systems improving throughput and consistency for clinical data tasks.

## Projects

**Neuro-RAG — Mental Health Diagnostic AI** | *Python, FAISS, Flask, LangChain* | 🐙

**2025**

- Deployed RAG system over ICD-10 chapters for grounded, hallucination-resistant answers with inline citations.
- Vectorized 14,000+ lines into 1,438 chunks; tuned top-*k* retrieval achieving ~29ms CPU latency with FAISS.
- Flask UI enables natural language search, evidence panels, and copyable references for clinical use.

**Retinal Vessel Segmentation** | *PyTorch, U-Net++, FastAPI, CV* | 🐙

**2024–25**

- Implemented U-Net++ with nested skip connections achieving 83.7% Dice score and 96% pixel-wise accuracy on DRIVE.
- Built FastAPI web dashboard with real-time inference (<1 second), multiple visualization modes, and drag-and-drop upload.
- Deployed production pipeline with mixed precision training, learning rate scheduling, and early stopping.

**DermAI — Skin Disease Classifier** | *ViT, TensorFlow, Llama 3.3, Flask* | 🐙

**2024–25**

- Trained Vision Transformer achieving 99.1% accuracy and Cohen's Kappa 0.975; surfaced Grad-CAM heatmaps.
- Integrated Llama 3.3 for medical Q&A; deployed Flask+SQLite with queued uploads and consult summaries.

## Technical Skills

**Programming:** Python, C, SQL

**ML/DL:** PyTorch, TensorFlow, Scikit-learn, XGBoost, SHAP, LangChain, Hugging Face

**Data:** Pandas, NumPy, Streamlit, Power BI

**CV/NLP:** U-Net++, Detectron2, OpenCV, Grad-CAM, MiDaS DPT, Mask R-CNN, ViT, SentenceTransformers, Groq SDK

**Deployment:** Flask, FastAPI, SQLite, Docker, GitHub

**Tools:** Jupyter, VS Code, Google Colab, Git

## Leadership & Activities

**IEEE — Technical Head**

**2024 – Present**

- Delivered workshop on Indian Sign Language recognition with CNN for 50+ attendees; authored lab materials and demos.
- Led AI/ML workshops at Technopedia 2024 managing logistics, content sequencing, and live troubleshooting.

**Google Developers Group — ML & DS Coordinator**

**2024 – 25**

- Mentored 100+ students on model design, evaluation, and deployment; ran peer-led hack/practice sessions.

## Achievements

**Second Runner-Up** — OxygenIgnite Hackathon, NIT Goa (Stellar India)

**Winner** — Cognition (Department-Level Project Competition)

**Runner-up** — BNB Chain Bombay Hackathon

**Top 3 (Sustainability)** — ByteCamp Hackathon

**Semi-finalist** — Deep Blue Project Season 10 (Mastek)

## Certifications

**Supervised Machine Learning** — DeepLearning.AI & Stanford

**Advanced Learning Algorithms** — DeepLearning.AI & Stanford

**Data Analytics Essentials** — Cisco