

PRITAM KUDALE

AI/ML ENGINEER

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AI/ML Engineer focused on GenAI systems and Computer Vision. Built multi-cloud LLM routing and retrieval systems (Vertex AI, Bedrock, Azure AI Foundry), delivering major cost reduction and low-latency inference. Strong in Python, deployment, and production-oriented experimentation.

AREA OF EXPERTISE

- GenAI & RAG: LangChain, LangGraph, embeddings, vector DBs (FAISS/Pinecone)
- Backend & APIs: FastAPI, Pydantic, Redis
- Cloud & MLOps: EC2, Compute Engine, Docker, CI/CD

KEY ACHIEVEMENTS

- **End-to-End Product Development.** Secured 2 enterprise pilots for Dynaroute (LLM routing + cost optimization).

PROFESSIONAL EXPERIENCE

AI Research Specialist, Vizura Technologies Pvt. Ltd.

Nov 2024 - Present

- **Building LLM-driven Company Brain:** That extracts business logic from enterprise documentation and validates it against stored procedures to generate **agent-compatible executable journeys** for autonomous ERP workflow execution, while serving as the structural foundation for cross-version data migration.
- **Architected and executed "Dynaroute" a GenAI project for smart LLM request routing**, leveraging LiteLLM to dynamically select optimal models across GCP Vertex AI, AWS Bedrock, and Azure AI Foundry. This initiative achieved a **74% cost reduction** through intelligent model routing and prompt optimization and was deployed via Docker on AWS EC2 for scalable, containerized inference. **Fine-tuned** a lightweight LLM selector model using **Unsloth** to predict the best downstream model, improving routing quality and cost-performance optimization.
 - Product: <https://dynaroute.vizura.ai/>
- **Engineered and deployed an image-based recommendation system** utilizing advanced embedding models (BEiT, ViT, CLIP) and FAISS for low-latency similarity search. The solution achieved a **Top-3 accuracy of 0.82** and was deployed on AWS EC2 for scalable, reliable performance.
 - [Report](#), [Github](#)
- **GraphRAG Chatbot — Knowledge Graph RAG:** Built a chatbot that uses a knowledge graph + GraphRAG to ground responses with Neo4j and Cypher queries, improving answer relevance and traceability over unstructured retrieval alone.
- **Developed a high-accuracy (91%) data extraction solution** to transform unstructured PDFs into structured JSON for API integration. Optimized the NLP and data structuring pipeline by conducting rigorous ablation studies on extraction tools and benchmarking leading LLMs, including GPT, Gemini, and open-source alternatives.
- Built **KhataAI**, an AI-native accounting platform for Indian SMEs (FastAPI, Next.js 15, PostgreSQL); designed a **3-tier classification engine (pattern → fuzzy → LLM)** that auto-categorized 100+ vendors across 21 expense heads and exported journal entries to Tally Prime and Zoho Books. Engineered LLM-powered document intelligence for PDF invoice extraction with 94%+ extraction accuracy.
- **Led a computer vision project** implementing object detection with YOLOv11 and YOLOv11-OBb, successfully achieving an **F1 score of 0.87**.
- Facilitated advanced **"Machine Learning, Deep Learning Mastery"** and **"Building LLMs from Scratch"** courses, successfully training over 400 participants and enhancing their data science capabilities.
- **Created high-impact digital content** on data science, generating over **2 million impressions** in 90 days and increasing audience engagement by 30% across multiple platforms.

PROFESSIONAL EXPERIENCE

Assistant Professor in AIML Dept, G. H. Rasoni College of Engg, Pune

Aug 2024 - Oct 2024

- Led undergraduate courses on the principles of Artificial Intelligence for a diverse student population.
- Developed the primary curriculum for a new **Generative AI** course tailored for 3rd-year students.
- Supervised a capstone project on building a **mobile purchase recommendation system**, providing technical guidance on system design and execution.

Assistant Professor, Guru Gobind Singh College of Engg & RC, Nashik

Jun 2016 - Jul 2024

- Achieved a 98% student success rate while instructing courses in AI, Python, Machine Learning, and Computer-Aided Engineering.
- Mentored a student project on Augmented Reality, which culminated in a published research paper.
- Organized and led a 3D printing workshop for over 50 participants.
- Managed key departmental portfolios, including Training & Placement and coordination of the Robotics & Drone Club.

Assistant Professor, G. H. Rasoni College of Engineering, Nagpur

June 2015 - April 2016

- Introduced computer applications in mechanical engineering and numerical methods, achieving a 96% student passing rate.
- Instructed CATIA and MATLAB programming to enhance practical software skills, resulting in improved student outcomes.
- Organized a successful workshop on 3D printing and biomedical engineering, engaging students in hands-on learning experiences.

EDUCATION

Master of Science in Data Science & Machine Learning

Mar 2024

- Woolf University, Malta — Graduated with 98%
- Project: Ensemble Learning | Decision Tree | GBDT | XGBDT | Ride-Hailing Company | Churn Analysis
 - I built a model to predict whether the cab driver will churn or not using Random Forest and GBDT.
 - Analyzed a driver profile using correlation, lineplot, and barplot.
 - Performed feature engineering by grouping and aggregation to extract useful data and generate new features.
 - Achieved an 88% F1 score and an 86% ROC-AUC score with hyperparameter tuning.
- Project: Tableau Project Data Visualization | Diabetic Patient Analysis
 - Analyzed various factors affecting diabetic patients, identifying key trends and patterns to improve treatment outcomes.
 - Developed a dashboard with 3 interactive worksheets, enhancing data visualization and accessibility for stakeholders.
 - Generated actionable insights from a comprehensive dataset, revealing correlations between parameters to guide decision-making.

Master of Technology in CAD/CAM

June 2015

- G H Rasoni College of Engineering — CGPA: 9.51
- Gold Medalist – 1st Year | Silver Medalist – 2nd Year

Bachelor of Engineering in Mechanical Engineering

July 2012

- Pune University — First Class — 61.5%

CERTIFICATIONS

- **Oracle** Cloud Infrastructure 2024 **Generative AI** Certified Professional
- **SQL HackerRank** SQL Intermediate Certification