PRITAM KUDALE

AI/ML ENGINEER

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An AI professional with extensive experience in Python, SQL, GCP, and AWS, specialising in robust AI solutions. Key projects include implementing GenAI for intelligent LLM routing with LiteLLM, building low-latency recommendation systems using FAISS. Combines a strong R&D foundation with practical skills in deploying scalable, containerised applications.

AREA OF EXPERTISE

ML, DL, GenAI, AI Agent,	GCP Vertex AI, Azure AI Foundry,	MLOps, Postman, Docker,
Context, Prompt Engineering	FastAPI, LangChain, LangGraph,	GitHub, CI/CD Pipeline,
Python, Scikit-learn, PyTorch	Pydantic AI, Compute Engine, EC2,	Redis, FAISS, Pinecone

KEY ACHIEVEMENTS

- **End-to-End Product Development**. Able to get two major industry clients. https://dynaroute.vizuara.ai

PROFESSIONAL EXPERIENCE

AI Research Specialist, Visura Technologies Pvt. Ltd. **Nov 2024 - Present**

- **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.
  - Product: https://dynaroute.vizuara.ai/
  - White Paper: https://openreview.net/forum?id=W2rbsUE01g
- **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.
  - Product: http://13.233.231.199/
  - Report, Github
- **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.
- **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.

Assistant Professor in AIML Dept, G. H. Raisoni 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.

PROFESSIONAL EXPERIENCE

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.

Design Engineer, Siva Sai Exports, Nashik **Oct 2017 - Oct 2020**

- Created a comprehensive plant layout using AutoCAD and CREO.
- Facilitated government approval processes by managing design documentation.
- Optimized material flow, resulting in a 23% efficiency improvement.

Assistant Professor, G. H. Raisoni COllege of Engineering, Nagpur **June 2015 - May 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 Raisoni 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