Uday Lunawat

Senior AI & Machine Learning Engineer | Fractal AI, Pune

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Summary

Senior Generative AI & MLOps Engineer with nearly **7 years of experience** designing **secure, governance-compliant AI platforms**. Specialized in **agentic AI systems, CI/CD automation, and scalable infrastructure** across **GCP, AWS, and Hybrid Clouds**.

Strong foundation in Data Structures & Algorithms, enabling reliable system design. Hands-on experience building **multi-agent workflows** to streamline enterprise delivery. Partnered with **Fortune 5 enterprises** to **transform GenAI prototypes into secure, production-ready platforms**.

Work Experience

Senior Machine Learning / AI Engineer (Agentic GenAI, LLMOps, FinOps) – Fractal AI   *Nov 2024 – Present*

TECH STACK: Python, GCP, LangGraph, FastAPI, Jenkins, SQLModel, Alembic, Langfuse   *Pune*

- Led the transformation of a fragmented GenAI ecosystem into a **production-grade agentic AI platform** for a **Fortune 5 U.S. telecom**.
- Architected and scaled a **LangGraph-based multi-agent orchestration layer** enabling stateful, hierarchical reasoning.
- Designed and implemented **RBAC and secure secret-isolation models**, eliminating static credentials, **enabling safe team agent sharing**.
- Built **dynamic tool and runtime configuration injection**, fully decoupling agent logic from environment-specific secrets.
- Unified backend services, agents, SDKs, RAG pipelines, and MCP servers under a **unified modular Jenkins CI/CD pipeline**.
- Automated Cloud Run provisioning and secure access workflows, **cutting environment setup time from days to 90 seconds**.
- Enabled **13,000+ automated deployments** and onboarded **300+ production agents** within six months.
- Leveraged **Generative AI tools (Copilot/LLMs)** to accelerate boilerplate code generation and automate tasks.

Senior Machine Learning Engineer (Human-in-the-Loop AI Systems) – HCL   *Apr 2024 – Jun 2024*

TECH STACK:- Python, GCP, MLFlow, Seldon Core, TensorFlow, Label Studio, Flask, Docker, GitHub Actions   *Bangalore*

- Built **human-in-the-loop evaluation systems** for NLP and recommendation models, integrating human and synthetic feedback.
- Developed annotation and training pipelines using **Label Studio + Flask APIs**, deployed via Dockerized services on GCP.

Machine Learning Engineer (AI Systems & Infra) – Chugani   *Feb 2022 – May 2023*

TECH STACK:- Python, AWS, MLFlow, Label Studio, nbdev, pruning, quantization   *Bangalore*

- Developed a **real-time liveness detection system** with face detection, recognition, and matching, achieving sub-second latency.
- Enhanced **ML infrastructure** with versioning, model registry, monitoring, and automated evaluation pipelines for production deployment.
- Re-architected workflows from notebooks to **modular Python packages (nbdev)**, enabling scalable software design and collaboration.

Machine Learning & ETL Engineer – Yang   *Apr 2019 – Jan 2022*

TECH STACK:- Python, Tableau, Streamlit, Airflow, AWS, NVIDIA Nemo, Google WaveNet, W&B   *Bangalore*

- Built a **24/7 automated AI audit system** with ETL pipelines and anomaly detection, improving factory quality control.
- Created **real-time dashboards** for 20+ vendor sites, saving 200+ manual reporting hours per week.
- Collaborated with global teams across **12 countries**, delivering scalable AI applications.

Internships ML Engineer and Data Analyst – Tata Consultancy Services & Infosys   *2018 – 2019*

Open Source Projects

ALPR(Streamlit Hall of Fame) | PDF2Podcast | RockReveal AI | Idea Generation | Others

TECH STACK - Hugging Face, Gradio, Gemini, OpenAI, Claude, Google ADK, OpenRouter, Streamlit, WandB

Skills

Languages :	**Python**, SQL, **Groovy**, HTML, CSS
Visualisation :	Tableau, Matplotlib, Folium, Plotly, Dash
Databases :	MySQL, PostgreSQL, MongoDB
Cloud & DevOps :	**GCP**, AWS, **Docker, Kubernetes**, CI/CD (Jenkins/GitHub Actions), **IaC**, Prometheus
Machine Learning & AI :	Tensorflow, Weights & Biases, MLFlow, Jupyter
GenAI Tools :	**GitHub Copilot**, Cursor, Openrouter, MCP, Tool calling
Other :	Git, NLP, Streamlit (**Frontend**), Pandas, Numpy, FastAPI
Certifications :	**AppliedAI Course**, Pyspark and Data Engineering

Education

B.Tech. in Information Technology - RCOEM, Nagpur   *July 2014 - April 2018*

Diploma In Computer Engineering - Shri Sai Polytechnic   *July 2011 - July 2014*