

Uday Lunawat

SENIOR AI & MACHINE LEARNING ENGINEER

Pune, MH, India

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Summary

Senior Generative AI & MLOps Engineer with nearly **6+ years of experience** designing and scaling **production-grade AI platforms**, not just models. Specialized in **agentic AI systems, backend orchestration, CI/CD automation, and ML infrastructure** across **GCP and AWS**.

Strong foundation in **Data Structures & Algorithms (5+ years)**, enabling reliable system design and performance-aware engineering. Hands-on experience building **multi-agent workflows, conversational AI, evaluation pipelines, and audio/TTS systems**.

Partnered with **Fortune 5 and large-scale U.S. telecom enterprises** to transform fragmented GenAI prototypes into secure, scalable, enterprise-ready platforms.

Work Experience

Senior Machine Learning Engineer (Agentic GenAI & MLOps) – Fractal AI

Nov 2024 – Present

TECH STACK: **PYTHON, GCP (CLOUD RUN, VERTEX AI), 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 **single modular Jenkins CI/CD pipeline**.
- Automated Cloud Run provisioning and deployments, cutting environment setup time from **days to 90 seconds**.
- Enabled **11,000+ automated deployments** and onboarded **300+ production agents** within six months.
- Re-architected routing and load-balancing to support hundreds of dynamic agent endpoints with stable production traffic.

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**

- 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**

- 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.

Junior ML Engineer and Data Analyst Internships – Tata Consultancy Services & Infosys

2018 – 2019

Open Source Projects

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

TECH STACK - GRADIO, OPENAI, GOOGLE ADK, OPENROUTER, TENSORFLOW, STREAMLIT, WANDB

Skills

Programming Languages : Python, Groovy

Visualisation : Tableau, Matplotlib, Folium, Plotly, Dash

Databases : MySQL, PostgreSQL, MongoDB

DevOps : CI/CD (Github Actions/Jenkins), Jenkins, Docker, Kubernetes (Kubeflow), Apache Airflow

Cloud : **GCP, AWS**

Machine Learning & AI : Tensorflow, Weights & Biases, MLFlow, Jupyter, XGBoost

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