

# Uday Lunawat

SENIOR AI & MACHINE LEARNING ENGINEER

Pune, MH, India

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## Summary

AI & Generative Machine Learning Engineer with nearly 6 years of experience in **software engineering, ML infrastructure, and applied AI systems**. Specialized in **Generative AI, Agentic frameworks, evaluation infrastructure, and scalable ML platform design** on **GCP & AWS**. Extensive experience with **Data Structures & Algorithms (5+ years)**, enabling efficient problem solving and high performance system design. Hands-on experience in **TTS/audio systems**, conversational AI, and evaluation pipelines for dialog and context. Partnered with enterprises including **largest U.S. telecom and a Fortune 5 tech giant** to deliver production-grade AI solutions. Strong foundation in **software design, ML infra, and system reliability**, with 3+ years in **speech / audio, ML infra and applied ML**.

## Work Experience

### Senior Machine Learning Engineer (Agentic Gen AI & MLOPs) – Fractal AI

Nov 2024 – Present

TECH STACK:- PYTHON, GCP (VERTEXAI, CLOUD RUN), LANGGRAPH, FASTAPI, JENKINS, SQLMODEL, ALEMBIC, LANGFUSE

Pune

- Partnered with **the largest U.S. telecom** to deliver conversational AI systems, enabling dialog handling and context tracking
- Built a **multi-agent orchestration framework** using **LangGraph**, supporting contextual reasoning and multi-model interoperability.
- Generated **synthetic & human-in-the-loop evaluation datasets** using generative models accelerating iteration cycles.
- Deployed **scalable agentic applications on GCP (VertexAI, Cloud Run)** for experiment and production-grade use cases.
- Established standardized **CI/CD pipelines** for **60+ projects** deployed by UI/Backend SDK, managing **3000+ automated triggers** in few weeks.

### 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.
- Worked extensively on **speech/audio systems**, experimenting with **NVIDIA Nemo, Google WaveNet**
- 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 (ADK) | RockReveal AI | Idea Generation |**

TECH STACK - HUGGINGFACE, GRADIO, OPENAI, OPENROUTER, TENSORFLOW, STREAMLIT, WANDB, NLP

## Skills

**Programming Languages :** Python

**Databases :** MySQL, PostgreSQL, MongoDB

**DevOps :** CI/CD (Github Actions), 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