

Shiv Tripathi Machine learning Engineer | 7+ year of Software Engineering Experience

Hyderabad, India

shivtripathi1310@gmail.com

+91-8983744780

[LinkedIn](#)

[Portfolio](#)

PROFESSIONAL SUMMARY

Machine Learning Engineer with **7+ years of software engineering experience**, specializing in **Machine Learning, Deep Learning, and Generative AI**. Experienced in building and deploying end-to-end ML solutions, including **LLM fine-tuning, RAG architectures, synthetic data generation, LLM evaluation, Agentic AI, and guardrails** using **LangChain and LangGraph**. Strong foundation in **cloud-native development and DevOps**, with hands-on experience in **AWS, Docker, Terraform and CI/CD**.

SKILLS

Programming Language: Python, Java, SQL

Python Libraries: Pandas, Numpy, Scikit-learn, PyTorch, Keras, Matplotlib, Seaborn, NLTK, LangChain, LangGraph

Cloud Platforms: AWS

DevOps Tools: Git, Gitlab/BitBucket, Jenkins, GitLab CI/CD, Docker, Terraform

Modeling and Generative AI: LLM Finetuning, RAG, Agentic AI, Synthetic Data Generation, Evaluation, Guardrails, Regression, Classification, Clustering, Neural Networks, NLP etc.

WORK EXPERIENCE

SERVICENOW, Machine Learning Engineer (MLE)

12/2023 – Present | Hyderabad, India

- Collaborated on **Content Moderation & Guardrails for the NowLLM platform**, contributing across the **end-to-end ML lifecycle** including **LLM fine-tuning, synthetic data generation, model evaluation, threshold optimization, real-time monitoring, and iterative model improvement**; analyzed **fault patterns in the Mixtral base model** to improve **model reliability and moderation performance**.
- **Designed and evaluated threshold strategies** across multiple model versions, conducting POCs to identify **optimal operating points** and balance **precision, recall, false-positive/false-negative trade-offs**, and overall **model safety and performance**.
- **Built an automated synthetic-data generation and evaluation pipeline** using **LangGraph, LLM-as-a-Judge, and multi-model orchestration**, generating **English and multilingual training data** and evaluation datasets; **automated ~90% of the data-generation workflow**, significantly reducing manual effort and accelerating **LLM experimentation and evaluation**.
- **Designed and deployed a Multi-Agent Tool-Calling system** for **agentic workflows across HR, ITSM, and CSM use cases**; architected **agent workflows and orchestration**, optimized **tool-selection strategies** to eliminate unnecessary function calls, and defined **structured output patterns**, resulting in approximately **50% reduction in operational effort**.
- **Built and contributed to an end-to-end RAG system** for **Content Moderation and Guardrails**, using **research papers, moderation guidelines, and guardrail rules** as the knowledge base; implemented **document ingestion, chunking, embeddings, vector retrieval, and LLM-based generation** to support **guardrail rule definition and context-grounded synthetic data generation**. Contributed to **Docker-based containerization, Terraform-based infrastructure provisioning, and AWS deployment**, taking the RAG POC toward a **cloud-deployable GenAI application**.

EPAM SYSTEMS, Software Development Engineer in Test (SDET)

09/2018 – 12/2023 | Hyderabad, India

- **Designed and developed a cloud-based AWS automation framework** for testing and validating distributed **AWS microservices across multiple environments**, integrating services including **Lambda, SQS, SNS, SES, S3, DynamoDB, RDS, CloudWatch, and EC2**.
- **Built and automated cloud infrastructure using Terraform and Docker**, enabling teams to provision and test AWS-based environments consistently and locally; leveraged **LocalStack** to emulate AWS services and reduce dependency on live AWS infrastructure, resulting in reduced cloud testing costs.
- **Designed a Docker-based mock environment for the production Trino database** to support automated data setup and integration testing, and subsequently integrated the solution with **AWS ECS (Elastic Container Service)** to validate containerized workloads in a cloud environment.
- **Engineered CI/CD-ready automation capabilities using Java/Python, JUnit5, Robot Framework, Maven, Jenkins, and GitLab**, including parallel execution, isolated logging, reporting, and automated test orchestration to improve the reliability and efficiency of cloud-based validation workflows.

CERTIFICATION AND AWARDS

- **AWS Cloud Practitioner.**
- **Llama Award Winner– Best Performer ×2 | ServiceNow, Test Autothon Runner Up | Epam Systems**

EDUCATION

- **Post Graduate Program– AI and ML - International Institute of Information Technology Hyderabad (IIITH)** **2024-2025 | Hyderabad**
- **Shri Ramdeobaba College Of Engineering And Management, B.E (CSE)** **2014 – 2018 | Nagpur, Maharashtra**