

LAKSHMI TILAK

+1 (945) 278-0533 | lakshmitilak50@gmail.com

PROFESSIONAL SUMMARY

AI/ML Engineer with 3+ years of experience building and deploying machine learning systems across networking, fintech, and IT consulting. Skilled in end-to-end ML lifecycle including data engineering, model development, deployment, and monitoring. Strong expertise in LLMs, Generative AI, NLP, computer vision, and MLOps. Hands-on with TensorFlow, PyTorch, Hugging Face, LangChain, and cloud ML platforms (AWS SageMaker, Azure ML, GCP Vertex AI). Proven ability to reduce model latency, increase detection accuracy, and integrate AI into production environments for measurable business impact.

CORE SKILLS

Languages & ML Frameworks: Python, R, SQL, TensorFlow, PyTorch, Keras, Scikit-learn, Hugging Face

Data Engineering: Spark, Databricks, Airflow, Kafka, DBT, Feature Store (Feast)

MLOps & Cloud: AWS SageMaker, Azure ML, GCP Vertex AI, Docker, Kubernetes, MLflow, DVC, GitHub Actions

AI Techniques: LLMs, RAG pipelines, Transformer models, CNNs, Recommendation Systems, Reinforcement Learning

Visualization & Analytics: Tableau, Power BI, Matplotlib, Seaborn

Governance & Monitoring: Model Drift Detection, Responsible AI, Explainability (SHAP, LIME), Great Expectations, Evidently AI

PROFESSIONAL EXPERIENCE

Juniper Networks – Sunnyvale, CA

AI/ML Engineer | May 2025 – Present

- Designed anomaly detection models using deep learning on network telemetry data, improving true-positive detection rates by 32% and reducing false positives by 18%.
- Implemented Transformer-based NLP solutions (BERT, GPT) for automated log parsing, reducing mean-time-to-detect incidents by 15% and improving escalation accuracy.
- Built streaming feature pipelines with Kafka and Spark for real-time data processing, enabling analysis of over 5 million daily network events.
- Deployed ML models on Kubernetes with Docker and MLflow, improving inference latency from 280ms to 110ms and achieving 99.95% service uptime.
- Developed a retrieval-augmented generation (RAG) assistant with LangChain and vector databases, cutting troubleshooting time by 22% for support engineers.
- Integrated AI-based intrusion detection with Splunk and QRadar, enhancing security monitoring coverage and SOC efficiency.

Datamatics – Dallas, TX

Machine Learning Engineer | Jul 2021 – Jul 2023

- Delivered fraud detection models for financial transactions using XGBoost and ensemble methods, achieving 96% precision and reducing false investigations by 10%.
- Developed and deployed recommendation systems on AWS SageMaker, driving a 20% increase in customer engagement and 8% higher conversions.
- Applied CNN and Transformer-based OCR models for document automation, reducing manual data entry effort by 45%.
- Automated ML workflows with Airflow and Spark on Databricks, reducing ETL and feature engineering time by 20%.
- Established CI/CD pipelines with GitHub Actions and MLflow, enabling safe weekly releases with blue-green deployments.
- Built real-time monitoring dashboards with Prometheus and Grafana for drift detection and SLA tracking, reducing downtime and data quality issues.

3i Infotech – Hyderabad, India

Data Scientist / AI Engineer | Jan 2019 – Jun 2020

- Built predictive models for customer segmentation and churn reduction, increasing campaign ROI by 10%.
- Implemented NLP sentiment and topic models with Word2Vec and LSTM to analyze customer feedback, reducing recurring complaints by 14%.
- Automated ETL processes using Python and SQL with data validation checks, improving reporting efficiency by 20%.
- Designed interactive Tableau dashboards to track ML model performance and business KPIs, improving executive decision-making speed.
- Deployed AI models in production with Docker and versioned training environments, streamlining delivery to IT teams.
- Established feature reuse across multiple projects with a centralized feature store, improving productivity and consistency.
- Monitored schema drift and implemented safeguards against null-value issues, reducing data-related outages.

EDUCATION

Master of Science in Cyber Security | Webster University | Aug 2023 - Mar 2025

Bachelor of Technology in Mechanical Engineer | Jntu University | Aug 2012 - Mar 2016

PROJECTS

- Generative AI Chatbot:** Built enterprise chatbot using LangChain, OpenAI API, and FAISS for knowledge retrieval, improving response accuracy and reducing hallucinations.
- Fraud Detection Pipeline:** Designed streaming pipeline with Kafka, Spark, and XGBoost for real-time fraud detection, processing over 50,000 transactions per second.
- Medical Image Classification:** Trained CNNs on radiology images achieving 93% test accuracy, supporting early disease detection research.