

# SUHAS VENKAT

ML Engineer | Deep Learning | LLM Agents | PyTorch | TensorFlow | MLOps

Berlin · +49 152 13787099 · suhasvenkat265@gmail.com

linkedin.com/in/suhas-venkat · github.com/suhasvenkat · suhasvenkat.github.io



## SUMMARY

Data professional with 3+ years at TCS applying ML to production data problems — attrition prediction (XGBoost), anomaly detection across 12+ KPIs, and pipeline optimization on 1.5M daily records. Built LangGraph RAG agent (80%+ precision, sub-200ms) and ResNet-50 fracture detection (88% accuracy on 40K X-rays). MSc research comparing LSTM, Transformer, GNN, and SSL architectures on 1,000+ buildings (ASHRAE). PL-300 certified. UE Berlin (2026).

## SKILLS

**ML & Deep Learning:** PyTorch, TensorFlow, Keras, Scikit-learn, XGBoost | CNN, ResNet, LSTM, Transformer, GNN | Transfer Learning, SSL (Self-Supervised Learning)

**LLM & GenAI:** LangChain, LangGraph, RAG, FAISS | Prompt Engineering, Semantic Search, LLM APIs, Streamlit

**MLOps & Data:** Airflow, FastAPI, Docker, Git | SQL (Advanced), PostgreSQL, Azure Data Factory | Power BI (PL-300)

**Languages:** Python (Pandas, NumPy, OpenCV), SQL, Linux | English (Fluent), German (B1)

## ML PROJECTS

### Energy Forecasting Research | PyTorch, TensorFlow, GNN, LSTM, Transformer, SSL

[github.com/suhasvenkat/energy-forecasting-research](https://github.com/suhasvenkat/energy-forecasting-research)

MSc research comparing LSTM, Transformer, GNN, and SSL architectures on ASHRAE dataset (1,000+ buildings). GCN outperformed temporal models at aggregate forecasting. SSL pretraining significantly improved robustness under sensor-failure scenarios.

### Support Mail Agent | LangGraph, LangChain, FAISS, FastAPI

[github.com/suhasvenkat/Support\\_Mail\\_Agent](https://github.com/suhasvenkat/Support_Mail_Agent)

Production RAG pipeline: LangGraph workflow orchestrating intent classification (5 categories), FAISS semantic search (80%+ precision), sub-200ms inference, AI response generation, confidence-based escalation. FastAPI + Streamlit UI.

### Bone Fracture Detection | TensorFlow, ResNet-50, OpenCV, Python

[github.com/suhasvenkat/bone-fracture-detection](https://github.com/suhasvenkat/bone-fracture-detection)

Transfer learning on ResNet-50. 88% accuracy on 40K X-ray binary classification (fracture/normal). Custom augmentation pipeline. Interactive Streamlit GUI for real-time predictions.

### Airflow ML Pipeline | Airflow, Docker, PostgreSQL, Python

[github.com/suhasvenkat/airflow-weather-pipeline](https://github.com/suhasvenkat/airflow-weather-pipeline)

End-to-end MLOps pipeline: CSV ingestion → Airflow DAG → PostgreSQL → model serving. Fully containerized with Docker. Supports the energy forecasting research ingestion layer.

## EXPERIENCE

### Data Analyst & Team Lead

Jan 2023 – May 2025

Tata Consultancy Services, India

- Built attrition prediction model in Python (XGBoost, Scikit-learn) on 18-month HR tenure data — flagging at-risk employees 6 weeks early. Deployed anomaly detection across 12+ KPIs via statistical process control, cutting alert time from 2 weeks to 24 hours.
- Engineered production data pipelines in Python and SQL processing 1.5M daily records — cut ETL latency 98% (3 hr → 3 min) by rewriting correlated subqueries as window functions and adding partition pruning, saving ~500 engineering hours/year.
- Built Power BI semantic layer for CFO/CHRO stakeholders by standardizing 4 business unit KPIs into a unified metrics model — 70+ dashboards delivered, cutting ad-hoc requests 40%.
- Led 3-person cross-functional team reporting to VP by running sprint planning, code reviews, and post-mortems across 5 Agile cycles — zero production incidents, on-time delivery on all milestones.

### Data Analyst

Jun 2022 – Dec 2022

Tata Consultancy Services, India

- Built 8+ reporting dashboards and ran cohort analysis in Python (Pandas, Matplotlib) and SQL — trend findings directly informed monthly executive planning cycles.

## EDUCATION

### M.Sc. Data Science

Expected Aug 2026

University of Europe for Applied Sciences (UE), Berlin

### B.E. Civil Engineering

2022

India

## CERTIFICATION

Microsoft Certified: Power BI Data Analyst Associate (PL-300) — 2024