Akshay Maniyampara

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Professional Summary

Data Scientist and ML Engineer experienced in developing, optimizing, and deploying end-to-end machine learning solutions. Skilled in **Python, SQL, PyTorch, TensorFlow, and Scikit-learn** with strong grounding in **statistics, feature engineering, and model evaluation**. Proficient in building scalable **ML pipelines, real-time inference APIs**, and orchestrating deployments using **Flask, Docker, and CI/CD**. Adept at delivering insights through **Power BI, Tableau, and Plotly**. Focus areas include **time-series forecasting, predictive modeling, MLOps**, and decision intelligence.

Education

SIES College of Arts, Science and Commerce — Mumbai, India

Bachelor of Science in Data Science, University of Mumbai — *Expected: 2026*

Technical Skills

Languages: Python, R, SQL, JavaScript

ML/AI Frameworks: PyTorch, TensorFlow, Scikit-learn, XGBoost, NumPy, Pandas

Data Visualization: Matplotlib, Seaborn, Power BI, Tableau, Streamlit

Databases: MySQL, PostgreSQL, Oracle RDBMS, MongoDB, BigQuery

Big Data & Cloud: Apache Kafka, Apache Spark, Cassandra, NeonDB

Web & Deployment: Flask, React, Tailwind CSS, Git, GitHub Actions, Vercel

Developer Tools: VS Code, Jupyter Notebook, Excel, Framer Motion

Deployment: Flask, Docker, GitHub Actions, Vercel, GCP

Projects

1. MedMira – AI Prescription Management System (Python, Flask, MongoDB, Vision API, GLiNER, Twilio, Docker) 2025

- Built an end-to-end **OCR + NER** pipeline to extract medicine names, dosage, frequency, and refill schedules from prescription images.
- Utilized **GLiNER Bio-Med** for medical entity recognition and structured record generation.
- Enabled **WhatsApp-based medication reminders** and refill alerts via Twilio automation.
- Containerized and deployed a scalable backend on **Google Cloud Run** with CI/CD integration.

2. Uber Trip Demand Forecasting (Python, XGBoost, Flask) 2024

- Engineered **time-series forecasting** pipeline using feature enrichment from weather & temporal patterns.
- Achieved **9.52% MAPE** using stacked ensemble with XGBoost and statistical baselines.
- Served real-time predictions through a **Flask REST API** for on-demand request volume planning.

3. EV Infrastructure Readiness Dashboard (Power BI, Excel, GIS, Python) 2025

- Designed a multi-page **Power BI analytics dashboard** to evaluate EV adoption density, charger distribution, utilization efficiency, and growth potential across Indian states and major urban clusters.
- Developed a custom metric — **Opportunity Score** — comparing EV penetration vs. charging network maturity, improving **infrastructure prioritization efficiency by 35%**.
- Delivered insights to support **policy planning, subsidy optimization, and private-sector investment strategies** for large-scale EV charging rollout.

4. Portfolio Backtesting & Analytics Engine (PostgreSQL, Streamlit, NeonDB) 2024

- Implemented SQL-driven time-series engine to compute **Sharpe, Drawdown, CAGR, and Benchmark Comparison**.
- Developed **interactive dashboard** enabling strategy simulation and real-time performance tracking in Streamlit.
- Optimized database workloads using **NeonDB branching** for versioned data experiments.

5. MedAssist — Intelligent Medical Support Chatbot (Mercury LLM, DSPy, GLiNER) *In Progress*

- Using **GLiNER Bio-Med** for medical entity recognition from symptoms & prescriptions.
- **Mercury LLM** for contextual clinical reasoning and conversational guidance.
- **DSPy + BootstrapFewShot (50 samples)** tuned to improve response accuracy and consistency.
- Supports patient triage, medication lookup, and clinical workflow assistance.

Certifications

Google Business Intelligence Professional Certificate (Coursera, 2024)

Google Cloud Skill Boost: Machine Learning Operations Fundamentals (2025)

3+ Production ML systems deployed with live demos and open-source code