VIJAY TAKBHATE

Leverages expertise in MLOps, AI/ML engineering, and data-driven automation to design, deploy, and optimize scalable machine learning pipelines, cloud-based AI solutions, and intelligent data-driven systems for business impact.

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Profile Summary

- **MLOps & AI/ML Engineering professional** with nearly 1.5 years of experience designing, deploying, and managing end-to-end machine learning pipelines, with prior 6 months of automation engineering experience in production systems.
- **Expert in AI/ML model development and integration**, including regression models, LLMs (GPT-5-mini, LangChain), and predictive analytics to drive data-driven decision-making.
- **Proficient in cloud-based deployment and containerization**, using AWS EC2, Docker, Flask, and Kubeflow to deliver scalable, production-ready AI/ML solutions.
- **Skilled in MLOps lifecycle management**, implementing CI/CD pipelines, MLflow experiment tracking, model versioning, and automated monitoring to ensure reproducibility and reliability.
- **Experienced in data engineering and analytics**, leveraging Databricks, SQL, Metabase, and pipeline automation to optimize workflows, enhance operational efficiency, and support business risk analytics.
- **Strong foundation in automation engineering and system reliability**, applying version control, monitoring systems, and production workflow optimization to reduce manual interventions and system errors.
- **Hands-on experience in risk and policy automation**, designing tools and custom Python packages for validating production systems, reducing complexity, and ensuring regulatory compliance.
- **Bridges technical and business requirements**, translating complex AI/ML solutions into practical, scalable applications aligned with organizational goals.
- **Thought leadership and knowledge sharing**, publishing technical blogs, guides, and tutorials to simplify ML concepts, containerization, and deployment best practices for practitioners.

Blogging / Publications

"Supervised, Unsupervised, & Beyond: ML Techniques Simplified" | LinkedIn
Simplified core machine learning paradigms (supervised, unsupervised, semi-supervised, online/offline learning) with real-world examples such as spam filtering, clustering, and pseudo-labeling to make ML accessible for beginners.

"Comprehensive Docker Guide: Containerizing Flask Applications"
Published a hands-on guide covering Docker fundamentals (Dockerfile, images, containers) for ML practitioners, demonstrating practical steps to build, run, and scale Flask-based ML applications.

Technical Skills

- **Programming & Scripting:** Python, SQL
- **Web & Application Development:** Flask
- **Machine Learning & AI:** SVR, GPT-5-mini, LangChain, ML model development, MLflow (experiment tracking)
- **MLOps & Deployment:** Docker, CI/CD (GitHub Actions), Kubeflow, AWS EC2
- **Data Engineering & Analytics:** Databricks, Metabase, Excel
- **Automation & Monitoring Tools:** Pipeline automation, version control (Git), PLC/SCADA tools

Core Competencies

- MLOps Lifecycle Management & CI/CD Implementation
- AI/ML Model Development & Deployment
- Predictive Analytics & Regression Modeling
- Data-Driven Decision Making & Business Process Integration
- Risk Analysis & Policy Automation
- Business Rule Engine (BRE) Implementation & Model Validation
- Cloud Deployment & Containerization
- Workflow & Pipeline Automation
- Process Reliability & System Stability
- Production System Scaling & Performance Optimization
- Experiment Tracking & Monitoring
- Cross-Functional Collaboration & Solution Architecture
- Compliance & Regulatory Alignment
- Knowledge Sharing & Thought Leadership
- Data Engineering & Analytics

Education & Credentials

Bachelor of Technology in Electronics & Telecommunication | SVERI's College of Engineering, Pandharpur, Maharashtra | 81.71% | Graduated: May'24

Diploma in Electronics & Telecommunication | SVERI's College of Engineering, Pandharpur, Maharashtra | 91.73% | Graduated: May'21

Certifications

Complete MLOps Bootcamp with 10+ Projects | Udemy | Jul'25
Built end-to-end MLOps pipelines including CI/CD, experiment tracking, and model deployment (e.g., Insurance Cost Prediction).

MLOps Bootcamp: Mastering AI Operations | Udemy | Jun'24
Implemented full MLOps lifecycle using Flask and MLflow for deploying machine learning models (e.g., Loan Eligibility Prediction).

Work Experience

➢ Risk Analyst (MLOps & Data Engineering Focus) | InCred Financial Services | Mumbai, Maharashtra | Dec'24 – Present

- **Policy Design & Deployment:** Driving policy design and deployment within the Business Rule Engine (BRE), ensuring regulatory compliance & seamless integration with risk workflows.
- **Python Package Development:** Architecting a custom Python package, *Simulator*, to validate policy implementation, reducing verification time by 30% and cutting code complexity by 50%.
- **CI/CD Implementation:** Orchestrating CI/CD pipelines using GitHub Actions for automated builds, testing, and deployment of policies and tools into production.
- **Data & Workflow Optimization:** Leveraging Databricks, Metabase, SQL, Git, and Excel to streamline data workflows and enhance operational efficiency.
- **Cross-Functional Collaboration:** Collaborating with cross-functional teams to implement scalable, reliable, and reproducible MLOps solutions in financial services.

➢ Fox Solutions Pvt. Ltd. | Pune & Nashik, Maharashtra | Feb'24 – Oct'24

Growth Path: (**Intern:**Feb'24 – Mar'24 → **Automation Engineer:** July'24-Oct'24)

- **Automation Pipeline Design & Deployment:** Built and implemented robust automation pipelines, enhancing reproducibility, monitoring, and reducing manual intervention across production lines.
- **System Reliability & Stability:** Applied reliability engineering & system monitoring practices to ensure stable, scalable, and fault-tolerant automation systems.
- **Workflow Optimization:** Integrated PLC/SCADA tools and version control mechanisms to streamline operations & improve operational efficiency.
- **Operational Efficiency Enhancement:** Leveraged pipeline automation and monitoring frameworks to accelerate production processes and minimize errors.

Projects

Market Price Realtime Analysis & Prediction Dashboard App | Nov'25 – Present

Objective: Developing a scalable AI-driven web platform to provide Indian farmers with live market prices, predictive insights, and an AI-powered query assistant.

- Designed a real-time dashboard offering live market prices for 374 agricultural commodities across India, leveraging official APIs.
- Built AI/ML models to forecast commodity price trends using historical datasets (75M+ records spanning 2001–2025).
- Implemented a scalable, RAM-efficient ETL pipeline for massive datasets, utilizing AWS S3 for storage and batch processing.
- Developed a React-based single-page frontend and Flask/FastAPI backend, deployed on AWS with Docker and Kubeflow for robust ML/data workflows.
- Integrated GitHub Actions for CI/CD automation and ML pipeline orchestration.
- Streamlined data ingestion, cleaning, and preparation, enabling policy research, supply chain analysis, and advanced visualizations.
- **Tech Stack:** Python, React, Flask, FastAPI, Docker, AWS EC2/S3, Kubeflow, PostgreSQL, Pandas, scikit-learn, TensorFlow, LangChain.
- **Github:** [github.com-market-price-realtime-analysis-prediction-dashboard-app]

Upcoming Enhancements: Real-time price streaming, advanced ML models, enhanced AI assistant features, and interactive visualizations to improve usability and farmer engagement.

AI-Powered Portfolio & Resume Assistant for HR | Oct'25

Objective: Developed an intelligent AI-driven platform to streamline HR interviews by generating dynamic questions and validating candidate responses.

- Developed an AI-integrated portfolio system enabling recruiters to conduct virtual HR interviews using LangChain and GPT-5-mini.
- Implemented a multi-LLM pipeline for dynamic question categorization, contextual response generation, and validation.
- Deployed the application using Flask, Docker, and AWS EC2, integrating MLflow for experiment tracking and GitHub Actions (CI/CD) for automation.
- **Tech Stack:** Python, Flask, LangChain, GPT-5-mini, MLflow, Docker, AWS EC2
- **Live Demo:** Portfolio Demo — **GitHub:** Repository

Medical Insurance Cost Prediction (SVR Model) | Sep'25

Objective: Designed and deployed an ML-driven system to accurately predict medical insurance costs, enabling data-driven decision-making.

- Built an SVR-based regression model achieving R^2 of 0.86 and MAE of 0.034 for medical cost prediction.
- Developed a Flask web application, containerized with Docker, and deployed on AWS EC2.
- Implemented MLOps components including MLflow experiment tracking, automated CI/CD pipelines, and Kubeflow integration.
- **Tech Stack:** Python, Flask, Docker, MLflow, Kubeflow, AWS EC2
- **GitHub:** Repository

Personal Details

Languages Known: English, Hindi, Marathi | **Current Working Location:** Thane, Mumbai