

Vashishth Raval

Data Scientist | Machine Learning Engineer

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Skills

- **Programming & Systems:** Python (NumPy, Pandas, Scikit-learn), SQL (CTEs, Window Functions), Git, FastAPI
- **Machine Learning:** Supervised & Unsupervised Learning, Cross-Validation, Feature Engineering, Ensemble Methods, Imbalanced Learning, Hyperparameter Optimization, Model Evaluation
- **Statistical Analysis:** A/B Testing, Experimental Design, Hypothesis Testing, Bias-Variance Tradeoff, Confidence Intervals
- **Deep Learning:** Neural Networks, Representation Learning, Transformers (BERT, GPT), Fine-Tuning
- **Generative AI:** RAG, LangChain, LangGraph, Multi-Agent Systems, Vector Databases
- **MLOps:** MLflow, DVC, Docker, CI/CD

Projects

TradeMind Pro – Multi-Agent Financial Intelligence System

[GitHub](#) | [Video](#)

- Built a multi-agent RAG architecture (Bull / Bear / Judge agents) to accelerate hedge and mutual fund research by generating structured, evidence-backed financial intelligence.
- Designed dense embedding-based retrieval across macroeconomic reports, sector analyses, and company filings, significantly improving response relevance and factual grounding.
- Implemented deterministic decision aggregation logic to convert agent outputs into calibrated Buy/Sell confidence scores, enabling measurable, auditable LLM-driven investment signals.

InvestWise – Hybrid Mutual Fund Recommendation Engine

[GitHub](#) | [Video](#)

- Developed a hybrid ML system combining K-Means clustering over 4,000+ mutual funds with LightGBM-based investor risk regression to solve investor choice paralysis via personalized risk mapping.
- Engineered composite financial indicators (risk-adjusted momentum, alpha-volatility score) improving cluster separability to a silhouette score of 0.42 for clearer segmentation.
- Integrated SHAP-based interpretability and deployed a FastAPI backend to deliver transparent, real-time recommendation outputs.

YouTube Sentiment AI – MLOps & Influencer Analytics Platform

[GitHub](#) | [Video](#)

- Constructed a dataset using the YouTube Data API and applied LLM-based labeling and augmentation techniques to address class imbalance and improve training robustness.
- Built an end-to-end MLOps pipeline using DVC (versioning), MLflow (experiment tracking), Optuna (hyperparameter tuning), GitHub Actions (CI), and Render (CD) with a Flask API for inference.
- Developed a real-time Chrome Extension performing sentiment analysis, controversy scoring, and trend detection across the top 500 comments retrieved via the YouTube API.

Work Experience — 2 Years 6 Months

Bankai Infotech Ltd

Jan 2023 – Jun 2025

Associate Business Analyst

Ahmedabad, Gujarat

- Analyzed 200M+ transactions (~\$90B in value) along with large-scale operational datasets for a major African bank to support churn reduction and cross-sell strategy development.
- Delivered data-driven dashboards and market intelligence insights to CXO-level stakeholders, directly informing strategic and revenue-impacting decisions.
- Translated ambiguous business requirements across Wallet and Agency Banking platforms into structured PRDs, KPIs, and analytical data models, influencing product roadmap decisions.
- Defined data-backed acceptance criteria within Agile delivery cycles, reducing rework by 30% and improving overall release quality.

Education

Praxis Tech School

2025 – Present

Post Graduate Diploma in Data Science and AI (GPA: 7.59 / 8.00)

Bengaluru, Karnataka

Dhirubhai Ambani Institute of Information and Communication Technology

2021 – 2023

M.Sc. in Data Science (GPA: 7.74 / 10.00)

Gandhinagar, Gujarat