

Vinay Babu Gorantla

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Portfolio: [Vinay Babu Gorantla - Portfolio](#)

Professional Summary:

Machine Learning & MLOps Engineer with 7+ years of experience in software engineering, data science, and Generative AI. Expert in building end-to-end AI systems, including LLM-powered, RAG, and Agentic AI applications, with automated ML pipelines using LangChain, LangGraph, MLflow, DVC, and FastAPI. Skilled in integrating OpenAI, Hugging Face, and Groq models with vector databases (ChromaDB, FAISS) for contextual reasoning and enterprise automation. Proficient in traditional ML and NLP techniques, data wrangling, feature engineering, and visualization. Known for delivering scalable, production-ready AI solutions that drive business value.

Experience Summary:

- Machine Learning & MLOps Engineer with 7+ years of progressive experience across software engineering, data science, and Generative AI, delivering scalable, production-grade AI and data-driven solutions.
- Designed and deployed end-to-end MLOps workflows, covering data ingestion, model training, evaluation, deployment, monitoring, and CI/CD automation using MLflow, DVC, Docker, and FastAPI.
- Built LLM-powered and RAG (Retrieval-Augmented Generation) applications leveraging LangChain, LangGraph, LangServe, and vector stores like ChromaDB and FAISS, integrating OpenAI, Groq, and Hugging Face models.
- Developed Agentic AI systems with contextual reasoning and real-time interaction, utilizing embeddings (OpenAI, Sentence Transformers) and LangSmith for prompt tracing and evaluation.
- Experienced in traditional machine learning and NLP techniques — including classification, regression, clustering, time series forecasting, and text analytics using Scikit-learn, XGBoost, LightGBM, and NLTK.
- Led data science initiatives involving data collection, cleaning, preprocessing, feature engineering, and statistical analysis, transforming raw data into actionable insights.
- Conducted exploratory data analysis (EDA), hypothesis testing, and regression/time series analysis to support business decisions and model development.
- Designed automated data pipelines for analytical workflows using Python and SQL, and created interactive Power BI dashboards for KPI visualization and operational insights.
- Strong foundation as a Software Engineer, experienced in SQL optimization, process automation, and incident/change management, ensuring stability and performance of enterprise systems.
- Known for bridging the gap between data science, software engineering, and MLOps, delivering AI-first, production-ready solutions that drive measurable business value.

Previous Employment History:

Machine Learning Engineer (Contract) | VM2R Services LTD, City of Bristol, England United Kingdom

| Feb 2022 to Present

- Designed and delivered end-to-end MLOps and Generative AI solutions, covering data ingestion, model training, deployment, and continuous monitoring in production environments.
- Developed and productionized an LLM-powered RAG (Retrieval-Augmented Generation) application that automated and enhanced insurance policy underwriting, assisting policy experts with real-time document analysis, risk evaluation, and decision support.
- Built Agentic AI workflows using LangChain, LangGraph, and LangServe, integrating OpenAI, Groq, and Hugging Face LLMs for dynamic reasoning, document summarization, and conversational automation.
- Implemented OpenAI and Sentence Transformer embeddings with ChromaDB and FAISS for semantic retrieval, intelligent search, and knowledge-based assistance.
- Utilized LangSmith for prompt evaluation, tracing, and hallucination reduction, improving model

reliability and performance.

- Developed full-cycle MLOps pipelines using MLflow, DVC, and CI/CD automation, enabling reproducibility, version control, and continuous delivery of models and APIs.
- Designed and deployed traditional ML and NLP models (classification, regression, clustering, and text analytics) for anomaly detection, risk scoring, and sentiment analysis using Scikit-learn, XGBoost, and spaCy.
- Collaborated with data and product teams to scale AI solutions, ensuring high performance, traceability, and alignment with business outcomes.

Data Scientist | WIPRO Technologies Ltd, Bangalore, India | Nov 2018 to Jan 2022

- Led end-to-end data science projects, transforming raw enterprise data into actionable insights through systematic data collection, cleaning, preprocessing, and transformation.
- Engineered and optimized data pipelines for feature engineering, statistical analysis, and model development, ensuring data quality, consistency, and scalability across business use cases.
- Performed exploratory data analysis (EDA) and hypothesis testing to uncover key patterns and validate business assumptions, supporting strategic decision-making for stakeholders.
- Applied regression and time series analysis techniques to forecast operational metrics, improve performance predictability, and guide data-driven interventions.
- Conducted statistical data analysis to identify root causes of inefficiencies in banking operations, driving measurable improvements in service delivery and process optimization.
- Built interactive Power BI dashboards to visualize trends, KPIs, and predictive outcomes — enabling leadership teams to monitor key business metrics in real time.
- Automated repetitive data processing and reporting pipelines using Python and SQL, reducing manual overhead, and ensuring consistency in insights delivery.
- Collaborated with cross-functional business and engineering teams to translate analytical findings into data-driven strategies and automated decision support systems.

Software Engineer | HCL Technologies, Chennai, India | Jun 2016 to Nov 2018

- Managed IT Service Management processes, including Incident, Change, Problem, and Service Disruption Management using BMC Remedy.
- Analysed and resolved recurring incidents, implementing root cause fixes to enhance application stability and reduce issue frequency.
- Supported deployment and release cycles by executing change management activities across test and production environments.
- Wrote and optimized complex SQL queries for issue diagnostics and reporting, improving resolution turnaround time.
- Conducted knowledge transfer sessions and documentation for smooth onboarding of new team members.

Educational Qualifications:

B. Tech Computer Science and Engineering | VIGNAN's University | Aug 2010 to Apr 2014

Technical Skills Summary:

Generative AI & LLMs

- LangChain (Chains, Agents, Retrievers, Memory, Toolkits, Document Loaders)
- LangGraph (stateful LLM workflows), LangSmith (prompt debugging, tracing, evaluation), LangServe (LLM app deployment as APIs)
- OpenAI API, Groq, Gemini/Gemma, Hugging Face Transformers, Anthropic Claude
- Prompt Engineering, Retrieval-Augmented Generation (RAG) pipelines
- Vector Stores: ChromaDB, FAISS
- Embeddings: OpenAI Embeddings, Sentence Transformers
- LLM App Deployment with FastAPI, Streamlit, Flask

Core Machine Learning & NLP

- Scikit-learn, XGBoost, LightGBM, TensorFlow, Keras, Hugging Face Transformers
- RNN, LSTM, GRU, BERT, Flan-T5, Falcon
- Word Embeddings, Named Entity Recognition, Sentiment Analysis, Topic Modeling
- Regression, Classification, Clustering, Dimensionality Reduction, Time-Series Forecasting

MLOps & Deployment

- MLflow, DVC, GitHub Actions, CI/CD, Docker, Kubernetes (introductory)
- DevOps practices, CI/CD (GitHub Actions), Infrastructure as Code (Terraform, CDK – working knowledge)
- Model Versioning, Experiment Tracking, Logging, Monitoring
- API development using FastAPI, Flask, and Streamlit
- Modular, container-ready Python applications

Data Engineering & Wrangling

- Pandas, NumPy, SQL, PySpark, T-SQL
- Feature Engineering, Data Cleaning, Data Pipelines

Data Analysis & Visualization

- Matplotlib, Seaborn, Power BI
- Statistical Analysis, Hypothesis Testing, Exploratory Data Analysis (EDA)

Cloud & Tools

- Azure (Azure ML, Databricks, Synapse Analytics, Data Factory, Blob storage, Data Lake Gen2, Azure DevOps)
- AWS (Lambda, Step Functions, Fargate, S3, DynamoDB, API Gateway, Bedrock – hands-on and project-based)
- Git, Bash, VS Code, Jupyter, Setup.py, requirements.txt

Programming & Scripting

- Python (Advanced), R (Basic), Shell/Bash (Basic), OOP Concepts

Disclaimer:

"I, Vinay Babu Gorantla, certify the accuracy of the information provided in this resume to the best of my knowledge. I am committed to ongoing learning and professional growth as a data scientist.