Vinay Ram Gazula

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Professional Summary

Databricks Certified Machine Learning Associate with 1.5+ years of experience developing and deploying predictive models on large-scale datasets. Skilled in Python, PySpark, SQL, and modern ML/DL frameworks, with expertise in data modeling, analytics, and cloud-based machine learning using Databricks, Azure, and AWS. Strong foundation in MLOps, model interpretability, and statistics, supported by an MS in Data Science and multiple research publications in machine learning and explainable AI.

Education

New Jersey Institute of Technology — Newark, NJ
*Master of Science in **Data Science*** — GPA: 3.89/4

Experience

Data Scientist — Aug 2025 — Present
Info Services — Livonia, MI

- Developed advanced machine learning models to analyze large-scale datasets and generate data-driven insights for decision-making
- Deployed a scalable Databricks batch inference pipeline to process sensor data from S3 using the Medallion architecture, scheduled at 2-hour intervals for timely predictions
- Integrated MLflow-registered models for distributed inference with Spark and maintained feature parity between training and serving environments to ensure reliable and auditable predictions
- Optimized Databricks workflow performance by enabling Photon acceleration, leveraging job clusters and autoscaling, and streamlining job orchestration, achieving a 34% reduction in end-to-end processing time and lower compute costs

Data Scientist — Jan 2024 — May 2025
New Jersey Institute of Technology — Newark, NJ

- Collaborated with multiple interdisciplinary research teams to extract actionable insights from complex scientific datasets
- Conducted analyses on institutional undergraduate student data, developing regression models in R to predict GPA
- Performed ablation studies to evaluate the influence of academic, demographic, and socioeconomic factors on performance
- Designed and implemented "SolarFlareNet"—a transformer framework for forecasting solar flares achieving 90.7% accuracy
- Automated the end-to-end ETL pipeline for SolarFlareNet using Azure Data Factory to ingest data into Azure SQL Database, ensuring data quality and accelerating model iteration speed by 45%
- Integrated explainable AI algorithms (LIME, SHAP, Anchors, PDP, ALE) into SolarFlareNet to interpret model predictions

Projects

AgenticLakehouse | *Databricks, Unity Catalog, LangGraph, Supabase, Gradio* — Github Repo

- Developed a multi-agent system using LangGraph to enable natural language interaction with Databricks Unity Catalog (UC) for querying delta tables using Databricks Serverless Compute, document retrieval from UC Volumes, and general web search.
- Deployed a Gradio-based Databricks App integrating Groq/Ollama LLMs, Supabase vector store, and Tavily API, enabling seamless conversational access to Lakehouse data.
- Designed a cost-effective, modular architecture supporting RAG on Unity Catalog Volume data, router agent workflow configuration, and LangSmith observability for rapid prototyping and deployment.

TradeForecast | *PyTorch, PyTorch Lightning, yfinance, Polars, scikit-learn* — Report

- Developed three deep-learning architectures (LSTM, CNN+LSTM, Transformer) for multi-horizon timeseries forecasting
- Orchestrated training using "ReduceLROnPlateau" learning rate scheduler in PyTorch for faster convergence, and implemented hyperparameter tuning using grid search
- Implemented feature engineering by ingesting OHLCV data via yfinance and adding temporal variables (Day of week, Fiscal Quarter) and technical indicators (MA, MACD, RSI, ATR)

Data Engineer Playground | *Docker, Airflow, Trino, Spark, MinIO, PostgreSQL, Project Nessie, Unity Catalog* — Github Repo

- Built a fully containerized multi-service environment to prototype end-to-end ETL workflows, from data ingestion in MinIO to batch or stream processing with Spark and workflow orchestration via Airflow.
- Enabled interactive SQL analytics through Trino with connectors for Postgres DB, Nessie Catalog and Unity Catalog

Research Publications

1. Interpretable Deep Learning for Solar Flare Prediction — IEEE ICTAI 2024 — 2024
2. An Interpretable Transformer Model for Operational Flare Forecasting — FLAIRS 2024 — 2024

Technical Skills

Languages	:	Python (PySpark, Pandas, Polars, TensorFlow, PyTorch, scikit-learn, LangChain), SQL, R, Bash
Databases	:	PostgreSQL, MySQL, Oracle (PL/SQL), MongoDB
Cloud Platforms	:	AWS (S3, Glue, Lambda, Athena, Redshift, SageMaker), Azure (Data Factory, Data Lake Storage, Synapse Analytics, Blob Storage)
Big Data & ETL	:	Databricks, Apache Spark, Snowflake, Trino, DuckDB, DBT, Apache Airflow
Generative AI	:	LangGraph, LlamaIndex, RAG Pipelines, Vector Databases (Chroma, Supabase), Prompt Engineering
Data Modeling	:	Normalization (3NF), OBT, Star Schema, Snowflake Schema, Data Vault
CI/CD & DevOps	:	Git, GitHub, GitHub Actions, GitLab, Docker

Certifications

- Databricks Certified Machine Learning Associate — Databricks — 2025
- Google Data Analytics Professional Certificate — Coursera — 2023