NIRAJ MOHABEY

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EDUCATION

Master of Science in Data Science, Worcester Polytechnic Institute **01/2024 – 12/2025**
GPA: 3.90/4.0
Relevant Coursework: Machine Learning, Natural Language Processing, Big Data Analysis, Data Visualization

SKILLS

Languages & Libraries: Python, SQL, R, scikit-learn, TensorFlow, PyTorch, Hugging Face Transformers
Big Data & Engineering: Apache Spark, Apache Kafka, Apache Airflow, Docker, Git
Tools: AWS (EC2, S3, Lambda), PostgreSQL, Snowflake**,** Power BI, Streamlit, Plotly, Grafana
Core Expertise: Machine Learning, NLP, Predictive Modeling, Real-Time Data Analytics, Model Deployment, MLOps

EXPERIENCE

RIGHT SKALE.INC | *AI Intern* **09/2025 – 11/2025**

- Built an AI-powered document intelligence platform featuring a multi-tenant backend, secure isolation, and a complete ingestion-to-indexing pipeline, reducing manual document lookup time by ~60%.
- Improved retrieval accuracy by ~35% by combining OpenAI embeddings, Qdrant vector search, and cohere reranking, and strengthened chat relevance using session memory, hybrid context windows, and summarization.
- Boosted system performance by adopting LRU caching, parallel task execution, and CloudWatch-based monitoring, achieving ~40% lower latency and a 3× increase in throughput.

MITSUBISHI UFJ FINANCIAL GROUP | *Data Science Intern* **01/2025 – 05/2025**

- Engineered a fixed-income ETF pricing engine using Python, SQL, ETL pipelines and Streamlit, modeling 5,000+ bonds with sub-0.5% deviation from Bloomberg YAS, enhancing trade execution confidence for investors.
- Deployed a Streamlit dashboard with 1,000+ ISIN-level yield shock curves, enabling interactive scenario modeling for interest rate risk analysis across diverse portfolios for strategic investment planning.
- Collaborated with quant analysts to deploy production-ready dashboards with real-time pricing logic, streamlining portfolio risk decisions and boosting trader efficiency in high-frequency trading environments.

SUNRISE GROUP USA LLC | *Data Science Intern* **06/2022 – 11/2023**

- Modeled a loan status prediction model using SVM in Python, achieving 83% test accuracy on a preprocessed dataset, improving lending decisions for financial risk mitigation in banking operations.
- Advanced a Linear Regression model for medical insurance cost prediction, attaining 0.74 R^2 score, with a Streamlit interface for user-friendly predictions and stakeholder engagement across cross-functional teams.
- Launched PowerBI dashboards to visualize financial data patterns, supporting cross-functional teams in anomaly detection and data-driven decision-making processes for enhanced financial strategy formulation.

PROJECTS

BigDocBot – AI-Powered Code Documentation Tool **01/2025 – 05/2025**

- Developed a Streamlit tool to auto-generate summaries, docstrings, and code quality reports for Python and JavaScript using LLMs (DeepSeek-Coder, CodeT5+), optimized with AMP, batching, and 8-bit quantization.
- Integrated an end-to-end data engineering pipeline to parse GitHub repositories, run LLM inference, and export structured PDF reports, rigorously validated output on curated code corpora for quality assurance and reliability.

AI-Powered Customer Churn Prevention System **01/2025 – 05/2025**

- Designed an XGBoost model to predict churn with 90% precision on 10,000-customer Telco data, enhancing retention strategies for telecom business operations and maximizing customer lifetime value.
- Created a PostgreSQL analytics layer and Streamlit dashboard to visualize churn trends, reducing detection latency by 40% using Kafka pipelines for real-time business decision-making.

Conversational AI Product Discovery Platform **08/2024 – 01/2025**

- Innovated a semantic search platform using BERT and Sentence Transformers, improving query accuracy by 30% for e-commerce product discovery and user engagement across diverse retail platforms.
- Implemented a PostgreSQL catalog with SQL filtering and React.js frontend, deployed on AWS for sub-second query response across 1,000+ daily users, enhancing online shopping experiences.

Real-Time Financial Fraud Detection with Graph Intelligence **08/2024 – 12/2024**

- Constructed a GNN-based fraud detection system using PyTorch Geometric, identifying 95% of fraud rings in PaySim data for enhanced financial security and regulatory compliance assurance.
- Optimized a Kafka-Flink streaming pipeline and Grafana dashboard, achieving 100ms latency for real-time fraud insights and investigation efficiency in high-stakes financial environments.