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

SKILLS

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

EXPERIENCE

LIQUIDITY AI CAPITAL CORP. | *Data Science Intern* **02/2026 – Present**

- Developed an internal AI assistant ("Donna") and automated WhatsApp-based workflows using APIs and Python to streamline deal alerts, data entry, and internal communications, improving operational efficiency for analysts.
- Leveraged AI-driven prospecting tools (Apollo, Seamless.ai) and data pipelines to aggregate and clean lead intelligence for M&A deal sourcing, supporting machine learning analysis of market trends and investment targets.

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

- Assembled an LLM-powered document intelligence platform using retrieval-augmented generation (RAG) with multitenant isolation and an ingestion-to-indexing pipeline, reducing manual document lookup time by ~60%.
- Improved retrieval accuracy by ~35% using embedding-based semantic search (OpenAI embeddings, Qdrant vector database) with Cohere reranking, hybrid context windows, and summarization for conversational AI.
- Refined LLM inference pipelines using caching, parallel task execution, and system-level monitoring (CloudWatch), achieving ~40% lower latency and a 3× increase in throughput.

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

- Built a loan status prediction model using SVM in Python, achieving 83% test accuracy, improving lending decisions for financial risk mitigation.
- Produced a medical insurance cost prediction model using linear regression ($R^2 = 0.74$), deploying a Streamlit interface to support stakeholder evaluation and scenario analysis.

INDUSTRY-SPONSORED PROJECTS

FALLON HEALTH | *Graduate Qualifying Project (GenAI Assistant)* **08/2025 – 12/2025**

- Integrated an enterprise generative AI assistant using Copilot Studio to securely retrieve and reason over healthcare provider contract documents, integrating Microsoft 365 SSO for authenticated access and seamless user experience.
- Designed and evaluated AI Copilot prompting strategies to improve contextual understanding, response reliability, and robustness, systematically testing accuracy and consistency against the provider contract knowledge source.

MITSUBISHI UFJ FINANCIAL GROUP | *Graduate Qualifying Project (Data Science)* **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.
- Collaborated with quant analysts to integrate real-time pricing logic into production dashboards, improving portfolio risk analysis and trader decision-making workflows.

PROJECTS

Time Series Forecasting & MLOps Pipeline **08/2025 – 09/2025**

- Constructed an end-to-end time-series forecasting system with rolling cross-validation across 5+ temporal splits and multi-model evaluation, improving forecast stability under data drift.
- Optimized a production-ready forecasting API with automated retraining, prediction confidence intervals, live performance monitoring across 3+ metrics, and model versioning using MLflow.

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

- Programmed an XGBoost-based churn prediction model achieving 90% precision on 10,000+ customers, incorporating feature engineering and model explainability to support retention decision-making.
- Created a real-time analytics pipeline using Kafka, PostgreSQL, and Streamlit to surface churn risk insights, reducing detection latency by ~40% and enabling timely intervention.

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

- Implemented a graph-based fraud detection system using PyTorch Geometric to model transactions, identifying ~95% of fraud rings and deploying a real-time pipeline with Kafka and Flink achieving ~100ms latency.