NIRANJAN NAVANEETHAN

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TECHNICAL SKILLS

Programming Languages: Python, R

Databases & Tools: Relational Database & ETL – MySQL Server, Azure; Snowflake, AWS – Redshift, S3; Postgres, MongoDB; dbt; Databricks; ElasticSearch; ApacheSpark; Tools – PowerBI; Tableau; RShiny

LLM Frameworks & Vector Databases: Langchain, Langgraph, Bedrock, FAISS, ChromaDB, OpenSearch

Machine Learning & Optimization: Pytorch; scikit-learn; Demand Forecasting, Prescriptive Scheduling, Time-Series Analysis, Predictive Modeling, Constrained Optimization

EDUCATION

University of Southern California, Viterbi School of Engineering – Los Angeles, CA   **Jan 2022-Dec 2023**
Master of Science in Computer Science - Applied Data Science (STEM) - 3.92 GPA

Ramaiah Institute of Technology – Bengaluru, India   **June 2014-June 2018**
Bachelor of Engineering in Electronics & Instrumentation Engineering

PROFESSIONAL EXPERIENCE

Fidelity Investments – Westlake, Texas   **May 2024-Current**
Principal Data Scientist – Fidelity Institutional Artificial Intelligence Center of Excellence
- RAG-based Research Assistant for Fund Managers: Independently designed and deployed a scalable ML pipeline and agentic system to generate investment research material templates (with generated graphs and tabular data extraction) from SEC filings and proprietary documents, reducing research time from 7 days to 5 minutes and enabling a 4x increase in fund coverage with 90%+ user satisfaction.
- Engineered and deployed text-to-SQL platform with Bedrock, FastAPI, and enriched Snowflake metadata, delivering **91% accurate queries in 22s**, cutting data analysis turnaround from **half a day to under a minute.**

MathCo – Bangalore, India | Chicago, Illinois   **July 2018 – Sep 2022 | Dec 2023 – May 2024**
Senior Associate & Data Scientist
- Led **project delivery and solution design** with cross-continental teams in the US and India for one of the **largest global pharmaceutical companies**. I led the development of **LLM-powered analytics assistants** that automated data analysis for non-technical users.
- Led an 8-member data science team to deliver a marketing mix optimization model for a Fortune 500 CPG client, boosting campaign ROI 8x, and developed high-accuracy forecasting, pricing, and NLP dashboards adopted across insurance, retail, and asset management sectors.

Ameriprise Financial, Columbia Threadneedle Investments – Minneapolis, Minnesota   **May 2023-Dec 2023**
Data Science Intern
- Developed and improved **a custom NER model's accuracy from 68% to 91% for** a trader-facing chatbot application, boosting information retrieval precision and overall user experience**.**

PROJECTS

- **RAG-based Research Assistant for Fund Managers** – Independently designed and deployed a custom **PDF parsing pipeline** using Pydantic and vision models to extract structured tables, automatically generate graphs, and integrate with LLMs to produce research templates from SEC filings and proprietary documents. This resulted in reducing research prep time from **7 days to 5 minutes**.
- **SQLGenie – Text-to-SQL System for Enterprise Analytics** – Developed a **semantic-aware text-to-SQL pipeline** using Bedrock, Langchain, and FastAPI, with **dbt-curated AI-ready datasets** from Snowflake enriched by semantic metadata and curated examples from vector stores. Generated final queries with syntax validation and result set comparison, achieving >**93% execution accuracy** and **88% result match**.
- **Pet Food Demand Forecasting** – Developed and deployed a **multivariate SARIMAX forecasting suite** with **87% accuracy** to optimize manufacturing for a top global private company, resulting in a **30% reduction in unsold inventory** through dynamic planning during COVID.
- **Insurance Pricing Optimization** – Engineered and deployed a **two-model ensemble** (Claim Severity + Propensity) with **81% accuracy** for one of the top 5 global insurers; solution ranked **#1 globally** among 10 competing teams in a predictive modeling challenge.
- **Automated Investment Research Dashboard** – Built an **NLP-powered analytics platform** with custom spaCy NER, topic modeling, and web scraping of 500+ PDF reports, reducing investment research time for asset managers by **90%** and enabling faster, data-driven sales pitches.

LEADERSHIP & AWARDS

- Filed a patent with USPTO for developing a state of the art Text-to-SQL system for financial datasets, achieving a high accuracy of >93%.
- Received the Fidelity on the Spot Award for mentoring interns and leading to the completion of GenAI projects.
- NLP research work at USC published in the NBER under the title - "The Cost of Regulatory Compliance in the United States".
- Led a team of data scientists to win an international data science competition and secured 7000 Euros.
- Awarded the best Data Scientist in the organization in 2018 at MathCo, and received similar quarterly awards and recognition.