Abhishek Gupta K

Data Scientist

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Profile

Data Scientist with **2.5+ years of experience** in **statistical modeling**, **predictive analytics**, and **Generative AI**. Specialized in applying **Machine Learning** to solve complex business problems for **Fortune 500** clients, including inventory optimization and churn reduction.Utilized **probabilistic modeling** and **feature engineering** to deliver data-driven strategies that optimized **business performance** and enhanced decision-making accuracy through **statistical inference**.

Skills

Modeling & Stats: Supervised/Unsupervised Learning, Time Series, Survival Analysis, Bayesian Stats, A/B Testing
Generative AI: LLM Fine-tuning, Agentic RAG (LangGraph), Prompt Engineering, Vector Databases (Pinecone/Chroma)
Tools & Languages: Python (Pandas, Scikit-Learn, PyTorch), SQL (PostgreSQL), Optimization (PuLP), Power BI
Domain Expertise: Customer Analytics, Supply Chain Forecasting, Operations Research, Growth Analytics

Professional Experience

The Modern Data Company
July 2023 – Present
Data Scientist
Hyderabad, India

- Architected and deployed a **multi-stage ensemble forecasting framework**, achieving a **26% improvement** in shipment accuracy by isolating high-fidelity demand signals to optimize **supply chain inventory capital**.
- Spearheaded the use of **Survival Analysis** and Kaplan-Meier estimators to quantify customer churn, achieving a **21% increase** in predictive power via **advanced behavioral feature engineering**.
- Executed **unsupervised clustering and dimensionality reduction** on regional sales data to uncover seasonal trends, increasing **reporting efficiency by 19%** and enabling targeted marketing strategies.
- Pioneered the design of a **Retrieval-Augmented Generation (RAG)** system using **semantic search and vector embeddings** to drastically reduce research time and streamline data science workflows.
- Engineered high-dimensional predictive architectures utilizing **XGBoost** and **Deep Learning** to model brand-level performance, yielding a **33% uplift** in shipment forecast accuracy for global distribution operations.

Dr. Reddy's Laboratories
June 2022 – December 2022
Data Analyst Intern
Hyderabad, India

- Enhanced critical **data integrity** for pilot scale ML initiatives by architecting and deploying automated **statistical validation pipelines**, which resulted in a measurable **30% increase in dataset reliability** and feature quality.
- Conducted deep-dive **Exploratory Data Analysis (EDA)** to mitigate systemic data inconsistencies, effectively preventing downstream model bias and ensuring high-fidelity outputs within the global **data ingestion pipeline**.

Projects

Supply Chain Demand Intelligence Platform
Forecasting / Operations Research

- Synthesized a **hybrid forecasting framework** by integrating ARIMA and LSTM architectures to achieve high-precision SKU-level demand predictions across highly volatile global market segments.
- Deployed a **mathematical optimization solver (PuLP)** to effectively navigate the multi-objective trade-off between minimizing warehouse storage costs and maintaining a strict 99% customer service level.

Enterprise Multi-Agent Research Engine
Generative AI / LLM Orchestration

- Developed a **stateful multi-agent orchestration layer** using **LangGraph** to facilitate **recursive reasoning** and autonomous fact verification across large-scale, unstructured enterprise knowledge bases.
- Systematically mitigated model hallucinations by **35%** through the implementation of an **LLM-as-a-Judge** verification layer coupled with a hybrid keyword-plus-semantic search retrieval strategy.

Education

Birla Institute of Technology and Science
August 2019 – May 2023
Bachelor of Engineering (B.E.) – Mechanical Engineering
Hyderabad, India

Certificates

- Supervised ML: Regression & Classification
- Unsupervised Learning, Reinforcement Learning
- Advanced Learning Algorithms