

DINESH BABU SATRAM

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SUMMARY

Data Scientist with 3+ years of experience building data-driven solutions in forecasting, experimentation, and customer behavior analytics. Proficient in **SQL, Python, Power BI, and Azure**, with hands-on experience in data modeling, reporting, and governance. Recently expanded into **Generative AI**, developing LLM-based applications using **LangChain, OpenAI APIs, RAG pipelines**, and custom-built **Model Context Protocol (MCP)** servers to deliver intelligent, context-aware systems.

EDUCATION

Masters in Computer Science, Georgia State University | Atlanta, GA

May 2025

Data Science Bootcamp, TripleTen

Mar 2025

Bachelors in Computer Science, Bharath University | Chennai, India

May 2023

COURSES & CERTIFICATIONS

Agent Engineering Bootcamp, **AWS Certified Machine Learning Engineer Associate**, **AI Agent Developer**, **Prompt Engineering Specialization** – Vanderbilt University, **AI Agentic Design Patterns with AutoGen**, **AI Agents in LangGraph** – DeepLearning.AI, **Advanced Prompt Engineering** - Learn Prompting, **AI Essentials** - Google, Python, Machine Learning Specialization.

SKILLS

Programming Languages: Python (Pandas, NumPy, PySpark), SQL, R

Data Analysis & Visualizations: Tableau, Power BI, Looker, QuickSight, Git, Docker, VS Code, Jupyter

Generative AI & LLMs: LangChain, OpenAI GPT-4/3.5, Claude, Gemini, Llama, AutoGen, PromptLayer, RAG, Agentic workflows

Prompt Engineering: Few-shot Prompting, Chain-of-Thought (CoT), ReAct, Self-Consistency, Role-based Prompting, Pinecone

LLMOps & Agentic Systems: Vector Databases, Multi-Agent Systems, Evaluation Metrics, Tracing, Guardrails, Fine-tuning & Embedding

Machine Learning & AI Skills: Scikit-learn, XGBoost, TensorFlow, PyTorch, Hugging Face Transformers, NLP, OpenAI API

Cloud & Dev Platforms: Azure (Data Factory, Synapse, Purview), AWS (S3, SageMaker, Lambda, Redshift, S3), GCP (Vertex AI, BigQuery)

PROFESSIONAL EXPERIENCE

Graduate Research Assistant, Georgia State University | Atlanta, GA

Jul 2023 – May 2025

- Collaborated with faculty on LLM research to design and refine prompt engineering strategies—leveraging few-shot learning, chain-of-thought reasoning, and role-based prompts—which improved summarization accuracy and Q&A relevance by 25%.
- Developed multi-agent workflows using LangChain and AutoGen to streamline tasks like data extraction and summarization, helping reduce iteration time and improve prototyping efficiency for generative AI applications.
- Led 20+ hands-on workshops and lab sessions on generative AI and prompt engineering, mentoring over 150 graduate students through personalized feedback and real-world NLP project guidance, driving measurable improvements in outcomes.
- Co-created learning modules and materials on core prompting strategies, token management, and structured output control, leading to a 30% increase in student project success rates and significantly reducing instructor intervention during final evaluations.

Data Scientist, Cognizant | India

May 2021 – Jun 2023

- Designed and managed automated ETL pipelines using Apache Airflow and Python to ingest and transform 2M+ retail transactions daily into Snowflake, reducing processing time by 50% and enhancing downstream analytics efficiency.
- Built and deployed interactive Tableau dashboards with parameter controls and custom KPIs to monitor 300+ store performance metrics, reducing weekly manual effort by 10+ hours and enabling real-time decision-making by regional leadership.
- Conducted A/B testing and time-series forecasting using Python and SQL to evaluate promotional campaigns and pricing strategies, leading to an 18% improvement in forecasting accuracy and data-driven inventory planning.
- Cleaned, validated, and transformed over 500K+ customer and transaction records with SQL and Pandas, increasing dataset reliability by 35% and streamlining downstream analytics and ML pipeline integration.

PROJECTS

FitLife Coach – AI-Powered Personal Fitness Assistant | TypeScript, MCP Server, GPT-4o - [Github](#)

June 2025

- Built an AI-powered fitness coach using a custom Model Context Protocol (MCP) server to persist user context and generate dynamic workout and meal plans via a real-time GPT-4o chat interface, integrated with a sleek V0 UI frontend.

Academic Research Assistant Agent | TypeScript, OpenAI, Vectorize.io, ArXiv API - [Github](#)

May 2025

- Developed an AI research assistant agent that uses a custom RAG pipeline (Vectorize.io) to summarize academic papers and dynamically query ArXiv for real-time research updates; integrated OpenAI for reasoning and orchestrated tool routing.

Customer Churn Prediction for Interconnect | Python, scikit-learn, XGBoost, Pandas, Seaborn - [Github](#)

Mar 2025

- Built and tuned a machine learning pipeline to predict telecom customer churn using multi-source data; achieved an AUC-ROC score of 0.8354 with Random Forest, identifying key drivers like contract type, monthly charges, and internet service features.