

Vishwanath (Vish) Guruvayur

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SUMMARY

Data Scientist with **3+ years of experience** building ML systems and data products across healthcare, operations, and e-commerce. Expertise in **Python, SQL, and AWS**, delivering production-grade, interpretable data products with model monitoring expertise. Strong focus on scalable deployment, experimentation, and **LLM-based retrieval**, with peer-reviewed research in multimodal RAG. Passionate about **bridging research and real-world impact** through responsible, scalable data science products.

EXPERIENCE

AI Researcher

University of Virginia

Charlottesville, VA (Remote)

Nov 2024 - Present

- Leading **applied research on multimodal and hybrid RAG** (Retrieval-Augmented Generation) to enhance content retrieval, comprehension and semantic search across educational media in the form of text, image, and audio.
- Built and evaluated a scalable RAG **pipeline with 10,000+ multimodal vectors** using SentenceTransformers, CLIP, and Pinecone, and evaluation using RAGAS and adversarial prompts to improve retrieval accuracy and reduce hallucination.
- Co-authored **peer-reviewed paper** [link](#) at AIED 2025 conference, introducing innovative techniques for multimodal retrieval and evaluation; awarded “Most Compelling Data Visualizations” at UVA’s Annual Capstone Showcase.
- Currently leading R&D of an **Agentic AI-based LLM assistant** that leverages structured retrieval over temporally-linked academic content to explore new methods of enhancing student support and informing instructional strategy.

Senior Data Scientist

Piramal Pharma Ltd.

Bethlehem, PA (Remote)

Jan 2022 - Jun 2024

- Established and led the Data Science team** for the Critical Care division, driving analytics integration into key business functions and mentoring junior data scientists across multiple high-impact projects.
- Prevented \$1.2M in quarterly inventory losses** by implementing counterfactual analysis of consumed inventory, write-offs and forecasted sales forecasting using Monte Carlo simulations and S-ARIMA modeling.
- Worked closely with the CFO to develop market segmentation models and competitive intelligence dashboards using AWS and PowerBI, guiding global pricing, product launch, and acquisition strategies across 5 business regions.
- Reduced ACoS **from 45% to 8% within 6 months** for high-priority e-commerce products by leveraging alternative data with NLP (VADER, SpaCy), market segmentation, and A/B testing to boost ad campaign optimizations.
- Enabled CHRO led initiatives** to assign targeted development plans and improve employee retention by building an NLP-based sentiment analytics pipeline with VADER and TextBlob to analyze employee performance reviews.
- Received the “Piramal Excellence Award” for building **30+ ML and analytics pipelines** with workflows for monitoring for model health for retraining triggers and business KPIs for performance reporting, improving operational efficiency by 85%.

Data Scientist

Piramal Pharma Ltd.

Mumbai, India

Jul 2021 - Dec 2021

- Intern in the Consumer Products division, delivering data science projects with high-impact in business-facing initiatives.
- Built the company’s first product recommendation engine and coded the Tree-based FP-Growth algorithm from scratch, achieving a **15% quarterly increase** in market penetration across **400,000 retailers**.
- Boosted high-performing sales reps **retention rates to 93%** by developing an attrition prediction model using XGBoost and Logistic Regression on historic sales performance and past employee data.

CERTIFICATIONS

- AWS Certified Solutions Architect – Associate, Amazon Web Services*
- AWS Certified Machine Learning – Specialty, Amazon Web Services*

May 2025 - May 2028

Jun 2025 - Jun 2028

EDUCATION

University of Virginia (UVA)

Master of Science in Data Science, GPA: 4.0/4.0

Charlottesville, VA

Jun 2024 - May 2025

Birla Institute of Technology and Science (BITS Pilani)

B.E. Mechanical Engineering, Minor in Data Science, GPA: 3.8/4.0

Hyderabad, India

Aug 2018 - Dec 2021

SKILLS

Languages: Python, R, SQL, Scala, JavaScript, Bash

LLMs & GenAI: Transformers, LangChain, HuggingFace, RAG, Prompt Engineering, PEFT (LoRA, IA3), Fine-tuning

Machine Learning: Sklearn, XGBoost, LightGBM, NLP (SpaCy, VADER), Statistical Modeling, A/B Testing, Recommendation Engines

Cloud and Tools: AWS (Certified), Azure, Databricks, Snowflake, Git, Conda, Flask

Data Engineering: Apache Spark, Snowflake, Hadoop, MLflow, Airflow, Docker, APIs, Web Scraping

Visualization: Power BI, Plotly Dash, Seaborn, Matplotlib