

Charlottesville, VA  
+1 (571) 602-2034  
vishguru2704@gmail.com

# Vishwanath Guruvayur

## Data Scientist

github.com/vishugp  
linkedin.com/in/vishgp  
Website: vishugp.github.io

### EDUCATION

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#### University of Virginia

Master of Science in Data Science

Charlottesville, VA

Jun 2024 – May 2025

Capstone Project (sponsored by LMI Inc.): Implementing Multimodal RAG-based LLM for Education

Research on methods for including multimodal data to build an Agentic AI-enhanced, context-rich learning experience.

Coursework: Large Language Models • Big Data Systems • Data Structures and Algorithms • Statistical Machine Learning • Data Engineering • Deep Learning • NLP and Text Analytics • Bayesian Machine Learning • Data Ethics

Activities: Data Science Ambassador • TA - Statistical Machine Learning • Academic Village Resident (The Range)

#### Birla Institute of Technology and Science (BITS Pilani)

Bachelor of Engineering in Mechanical Engineering, Minor in Data Science

Hyderabad, India

Aug 2018 – Dec 2021

### PROFESSIONAL EXPERIENCE

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#### Lead Data Scientist

Piramal Critical Care

Bethlehem, PA (Remote, India)

Jan 2022 – Jun 2024

- **Established and led the Data Science and Analytics Team**, mentoring a high-performing team of data scientists to integrate advanced analytics with best practices into core business functions.
- **Collaborated closely with senior leadership** to translate business challenges into data-driven strategies, improving strategic decision-making and boosting operational efficiency.
- Engineered **over 30 Data and ML pipelines** with Python and SQL for critical analytical reports, reducing manual workload by 85% and enabling real-time insights **for faster, more accurate actionable insights**.
- Introduced **Predictive Modeling** for streamlining financial planning, market analysis, and supply chain operations, **driving a 40% efficiency gain** in processes and enhancing visibility into inefficiencies and optimization opportunities.

##### Key Project Highlights:

- **Inventory Forecasting:** Prevented **\$1.2M in quarterly inventory** losses by increasing depleting stock visibility and optimizing replenishment cycles using an S-ARIMA and Monte Carlo simulation-based time-series forecasting pipeline.
- **Market Share and Growth Analytics:** Created an executive dashboard employing competitive benchmarking and segmentation analysis, identifying growth opportunities, **influencing long-term strategic planning at the C-suite level**.
- **Individual Development Plans:** Designed an NLP sentiment analysis model using VADER and TextBlob to analyze performance reviews, identifying key improvement areas and **informing HR leadership's talent development strategies**.

#### Data Science Intern

Piramal Consumer Healthcare

Mumbai, India

Jul 2021 – Dec 2021

- Worked with cross-functional teams to provide analytical solutions for sales optimization and employee retention.
- **Recognized for exceptional performance**, leading to an offer for a Lead role at Piramal Critical Care.

##### Key Project Highlights:

- **Product Recommendation Engine:** Developed the company's first recommendation engine pipeline from scratch based on the FP-Growth algorithm, achieving **15% increase** in market penetration quarterly across **400k retailers**.
- **Salesmen Attrition Prediction:** Built an ensemble model utilizing **XGBoost and Logistic Regression** to predict salesmen attrition by leveraging performance metrics and operational features, achieving a **93% critical retention rate**.

### SKILLS

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**Programming Languages:** Python, R, SQL, JavaScript, C++, MATLAB, Scala, Julia

**AI and ML:** Traditional ML, NLP, Deep Learning (PyTorch, TensorFlow), LLMs (LangChain, HuggingFace), OpenCV

**Cloud Data Tools:** Azure (DataBricks, Data Factory, ML Studio), AWS (SageMaker, Dask, EC2), Git, Docker, PySpark

**Data Visualization:** Power BI, Plotly Dash, MS Excel (VBA, Power Query), d3.js, QlikSense

### CERTIFICATIONS

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- AWS Certified Solutions Architect – Associate
- AWS Certified Machine Learning – Associate

Amazon Web Services (expected Mar 2025)

Amazon Web Services (expected Apr 2025)