

Harish Muthyala

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EDUCATION

Master's of Science in Computer Science , <i>University of Houston</i> <i>Machine Learning, Generative AI, Advanced Operating Systems</i> GPA: 3.8/4.0	Aug. 2024 – May 2026 <i>Houston, TX</i>
Bachelors in Computer Science , <i>Vellore Institute of Technology</i> <i>Design of Algorithms, Computer Networks, Artificial Intelligence</i>	Jul. 2018 – Apr 2022 <i>Vellore, India</i>

TECHNICAL SKILLS

Languages: Python, Java, C/C++, SQL (Postgres, DynamoDB), JavaScript, HTML/CSS, R
Frameworks: Langchain, RAG, MLOps, Tensorflow, pandas, Numpy, Agents, React, Node.js, Flask, FastAPI
Cloud: AWS S3, Lambda, Sagemaker, Bedrock, EC2, ECS, VPC, Codepipeline, Quicksight, Azure Foundations
Developer Tools: Git, Docker, Kubernetes, Postman, VS Code, Jupyter
Credentials: AWS Solutions Architect - Associate, Accenture Trailblazer Award, AWS Article, Hawks Scholarship

EXPERIENCE

Generative AI Engineer <i>Senior Analyst, Accenture AWS Business Group (AABG)</i>	May 2023 – July 2024 <i>Hyderabad, India</i>
<ul style="list-style-type: none">Led development of a Retrieval-Augmented Generation (RAG) pipeline, reducing manual underwriting processes by 75% for a credit underwriting workflow.Implemented OpenSearch Serverless vector DB with Titan embeddings, enabling fast retrieval of structured client data from Excel and other financial documents.Designed few-shot prompt templates using Langchain, improving generative accuracy for processing complex financial notations.Engineered preprocessing pipelines using Pandas for data cleaning, chunking, and conversion, enabling robust and scalable ingestion of tabular financial data.	
Machine Learning Operations Engineer <i>Application Engineering Analyst, Accenture AWS Business Group (AABG)</i>	Aug. 2022 – Jan. 2024 <i>Hyderabad, India</i>
<ul style="list-style-type: none">Deployed SageMaker Autopilot pipelines in secure VPC environments for telecom customer churn prediction, supporting scalable API-based inference.Implemented real-time model drift detection via SageMaker Model Monitor, enabling proactive model retraining strategies.Automated migration of QuickSight Dashboards across AWS accounts, preserving dataset integrity and improving reporting for analytics stakeholders.Streamlined CI/CD processes for dataset ingestion and dashboard deployment, improving update velocity across accounts.	
Information Technology Project Analyst <i>Office of Information Technology, University of Houston</i>	Oct. 2024 – Present <i>Houston, TX</i>
<ul style="list-style-type: none">Served as internal SME and consultant for migrating IT service tools from FootPrints to TeamDynamix, affecting 80+ IT staff and dramatically improving workflow visibility and tracking.Directed the transition of networking asset management from Access DB to TeamDynamix, modernizing IT asset lifecycle management.Supported enterprise software rollouts like MedProctor and Point'nClick, handling requirements gathering, stakeholder management, and technical validation.Transitioned manual, email-based request handling to structured, web-based workflows, enhancing operational efficiency and response times for business requests and change management processes.	

PROJECTS

Model Context Protocol | *Python, Claude, Research, Langchain*

- Conducted comprehensive research on MCP architecture for LLM communication and context management
- Analyzed protocol integration patterns with frameworks like LangChain and demonstrated real-world applications
- Implemented MCP client-server architecture enabling seamless LLM-application communication
- Created implementation examples showcasing file creation and Google Maps integration via MCP servers

Exploratory Data Analysis on Customer Churn Prediction | *Random Forest, Python, Jupyter, Pandas, Git*

- Developed a customer churn prediction model for the telecom sector using RF algorithm with .92 accuracy
- Conducted extensive exploratory data analysis to identify key factors influencing customer attrition
- Implemented machine learning techniques to calculate individual customer churn probability, enhancing retention strategies