

THEJESH MALLIDI

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EDUCATION

Michigan State University, USA	08/2023 - 04/2025
Master of Science in Data Science	GPA: 3.95/4.0
Madanapalle Institute of Technology & Science, India	06/2017- 07/2021
Bachelor of Technology in Computer Science	GPA: 9.23/10.0

EXPERIENCE

Michigan State University	East Lansing, MI, USA
Graduate Research Assistant - Applied AI	01/2024 – Present
<ul style="list-style-type: none">Built a domain-specific knowledge graph with over 2 million entities and 1.4 million relationships to accelerate hypothesis generation in plant science, leveraging Named Entity Recognition (NER) and Relation Extraction.Achieved high-precision extraction for the graph with 94% accuracy in entity extraction and 84% in relation identification by finetuning state-of-the-art Large Language Models (LLMs) and a custom BERT-based multi-relation extraction model.Enabled accurate question answering over a knowledge graph using GenAI Agents and Retrieval-Augmented Generation (RAG) techniques, optimized through prompt engineering.	
Quantiphi Analytics	Bangalore, India
Machine Learning Engineer	05/2021 - 07/2023
<ul style="list-style-type: none">Automated document processing pipelines for Banking, Financial Services, and Insurance (BFSI) workflows using computer vision and NLP-based models, which reduced manual review time by 75% and achieved 90% data extraction accuracy.Delivered solutions for 10+ Proof of Concepts (PoCs) on document classification & extraction, object detection, image classification, and semantic segmentation tasks.Developed insurance-focused predictive models for risk assessment and claim outcome prediction using Logistic Regression, Decision Trees, Bagging, Random Forest, and Gradient Boosting Machines (GBM).Built and optimized real-time inference pipelines for Nvidia edge devices using DeepStream with custom C++ plugins, achieving 27 FPS for latency-sensitive applications.Deployed and monitored 20+ machine learning models in production using AWS SageMaker, GCP Cloud Run & Kubernetes, Flask and FastAPI.	

SKILLS

- Core Expertise:** Data Science, Machine Learning, Deep Learning, Natural Language Processing (NLP), Computer Vision, Large Language Models (LLMs), Generative AI & Agentic AI, Predictive Modeling, Decision Analytics, Graph ML
- Programming Languages:** Python, R, C++, C, Bash
- AI/ML Frameworks & Libraries:** PyTorch, TensorFlow, TensorRT, LangGraph, LangChain, LlamaIndex, AutoGen, Phi Data, VectorStores and Retrievers, Hugging Face Transformers, OpenCV, NumPy, Pandas
- Big Data & Streaming:** Hadoop Spark, Apache Kafka
- Databases:** MySQL, PostgreSQL
- Cloud & MLOps Tools:** GCP, AWS, Heroku, Docker, Git, Flask, FastAPI, MLFlow, Nvidia Deepstream

PROJECTS

MyHealthAgent: Personalized Multi Agent Assistant	02/2025 - 03/2025
<ul style="list-style-type: none">Developed a GenAI-powered nutrition assistant that analyzes user chronic conditions and meal logs to deliver real-time, personalized dietary recommendations in under 2 seconds.Built a condition-to-nutrition pipeline that extracts user medical conditions from lab report images through OCR and a LLaMA-based model, then computes 10+ macro- and micronutrient thresholds tailored to those conditions.Designed a Web App that allowed users to chat with a Multi-Agent System for condition-specific food recommendations, dietary planning, and food image classification with ~90 % ingredient-recognition accuracy.	
Analysis and Quantification of Deflected Regions in Road Surfaces	10/2023 - 12/2023
<ul style="list-style-type: none">Developed a 3D defect detection pipeline with 95% accuracy on Point Cloud data to identify and quantify deflected road regions using geometric methods.Applied RANSAC, clustering algorithms, and VTK for 3D data segmentation and defect isolation.Reduced inference time by 60% through parallel processing and GPU based computations using Nvidia Rapids.	

CERTIFICATIONS

- AWS Machine Learning Specialty Certification
- Data Science Specialization