

THEJESH MALLIDI

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EXPERIENCE

Quantiphi Analytics

Irving, TX, USA

Machine Learning Engineer

06/2025 - Present

- Architected an LLM-powered large document processing pipeline for a Tier-1 telecom, transforming 2M+ complex contracts from unstructured legalese to structured graphical format preserving document hierarchy for superior data integrity.
- Empowered legal teams to surface risks and key contract terms across 2M+ documents and cut review cycles by 60%, through a GraphRAG-powered Agentic Contract Assist chatbot with sub-second retrieval latency and 90%+ answer accuracy.
- Automated deployment with CI/CD across Red Hat OpenShift and GCP Cloud Run to ensure seamless version upgrades and 99.9%+ uptime and integrated metadata storage solutions with ElasticSearch, BigQuery and Google Cloud Storage for fast, reliable contract analytics.

Michigan State University

East Lansing, MI, USA

Graduate Research Assistant - Applied AI

01/2024 – 05/2025

- Pretrained domain-adapted BERT (MLM) with domain-aware masking (boosted mask probability for curated terminology) on 1M abstracts, delivering +15% average accuracy on downstream tasks.
- 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.
- Fine-tuned LLMs, including BERT and LLaMA variants and created a custom BERT-based multi-relation extraction model for information extraction, achieving 94% accuracy in entity extraction and 84% in relation identification.
- Developed a conversational research assistant with GraphRAG + agentic workflows (LangGraph) to reason over the KG and literature.
- Led large-scale topic analysis of 700k evolutionary biology research abstracts, uncovering temporal trends, research shifts, and literature gaps to inform future studies; leveraged BERT-based topic modeling and Agentic AI to extract ~150 high-quality topics.

Quantiphi Analytics

Bangalore, India

Machine Learning Engineer

05/2021 - 07/2023

- 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 10+ Proof of Concepts (PoCs) on document classification & extraction, object detection, image classification, and semantic segmentation in collaboration with cross-functional teams of frontend developers and business stakeholders.
- 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.
- Orchestrated the deployment of 20+ machine learning models into production environments, leveraging CI/CD pipelines across AWS SageMaker, GCP Vertex AI, and Kubernetes, decreasing model deployment time by 30%.

SKILLS

- Core Expertise:** Data Science, Machine Learning, Deep Learning, Predictive Modeling, Natural Language Processing (NLP), Computer Vision, Large Language Models (LLMs), Generative AI, Agentic AI, RAG, Graph ML, MultiModal AI, LLM Orchestration
- Programming Languages:** Python, R, C++, C, Bash
- AI/ML Frameworks & Libraries:** PyTorch, TensorFlow, TensorRT, ONNX, LangGraph, LangChain, LlamaIndex, AutoGen, Vector databases, Hugging Face Transformers, OpenCV, NumPy, Pandas
- Big Data & Streaming:** Hadoop Spark, Apache Kafka, Apache Beam
- Databases:** MySQL, PostgreSQL, Neo4j Graph DB, Elastic Search
- Cloud & MLOps Tools:** GCP, AWS, Docker, Git, Flask, FastAPI, CI/CD Pipelines, Jenkins, MLFlow, KubeFlow

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