GOPI TRINADH MADDIKUNTA
Research Assistant @ CS | Master's Student
University of Houston

gopitrinadhm3110@gmail.com
+1 (916) 836-6345 | gopitrinadh.site
linkedin.com/in/gopitrinadhmaddikunta/

PROFESSIONAL SUMMARY

A graduate student in Engineering Data Science at the University of Houston, a 2025 Google Summer of Code Contributor with Scala Center, and a Research Assistant in the Computer Science Department under Dr. Peizhu Qian. I specialize in building Retrieval-Augmented Generation (RAG) pipelines and deploying AI solutions using tools like LangChain, TensorFlow, and FAISS. With hands-on experience across healthcare and information retrieval projects, I turn complex data challenges into real-world AI applications while continuing to grow as a data scientist.

EDUCATION

Degree	Specialization	Institute	Year	GPA
Master's	*Engineering Data Science*	University of Houston	Present	3.722
Bachelor's	*Computer Science & Engineering*	Narasaraopet Engineering College	2024	8.75
HSC BIEAP	*Physics, Chemistry, & Mathematics*	Narayana Junior College	2020	9.88
SSC	-	Live School	2018	9.8

WORK EXPERIENCE

Data Analyst Intern *[360DigiTMG Pvt. LTD]* *Jan–Apr 2024*

Preprocessed medical inventory data and detected outliers using Python, Pandas Scikit-learn, Built models to predict and optimize stock level and reduce overstock/shortage risks; Created Interactive dashboards and matplotlib reports to visualize trends and waste analytics and presented insights to stakeholders, enhancing data-driven supply chain decisions.

Freelance Web Developer (WordPress) — Built and maintained two client websites with a focus on SEO, responsive design, and site optimization.

HONORS ACHIEVEMENTS

Google Summer of Code 2025 – LLM4S *[Scala Center]* *Present*

Got selected for Google Summer of Code 2025 and successfully completed midterm evaluation with Scala Center, where I worked on the LLM4S project. I focused on adding RAG support to Scala-based LLM systems and got hands-on with open-source AI tools throughout the program.

PROJECTS

Evaluating Retrieval-Augmented Generation (RAG) for Information Retrieval *Jan 2025 – Apr 2025*

Developed a LangChain-based RAG pipeline utilizing LLaMA-3.2-1B-Instruct-QLoRA-INT4, Qwen2.5-0.5B, and Flan-T5 Small, integrated with FAISS and the neural-bridge dataset. Conducted response evaluations using RAGAS, BERTScore, and custom metrics including faithfulness, context precision, and answer relevance. Leveraged HuggingFace embeddings and a RetrievalQA chain for comprehensive performance benchmarking.

Pneumonia Detection using Deep Learning *[Prof. Sathyam Reddy]* *May 2024*

Trained CNN models on Kaggle X-ray data using Bilateral and Gaussian filters, optimized with Hyperopt. Built a user-friendly web interface with HTML5, CSS3, and Bootstrap 5 for real-time diagnosis.

Vaidya – Ayurvedic Hospital Management System *Jan 2024*

Led a 3-member team to build a MEAN stack system streamlining hospital workflows like doctor visits and inventory management.

POSITIONS OF RESPONSIBILITY

Data & Financial Manager, AICTSD & CSI (Volunteer) — Oversaw event budgets, tracked participant data, and coordinated logistics for 10+ tech events and student programs. Helped streamline operations and improve reporting for smoother execution.

CERTIFICATIONS

MTA - PYTHON *Microsoft | June 2022*
Azure Fundamentals *Microsoft | May 2023*
AWS - Machine Learning *AWS | Sept 2022*
Dashboards with Excel *Devtwon | Feb 2023*

TECHNICAL SKILLS

Languages: Python, SQL, HTML, CSS, JavaScript.
Libraries & Frameworks: Pandas, NumPy, Scikit-learn, Matplotlib, Seaborn, TensorFlow, PyTorch, Bootstrap, Angular, Node.js
Tools & Platforms: Jupyter, Git, LangChain, FAISS, ChromaDB, Excel, PostgreSQL.
Concepts: Machine Learning, Deep Learning, RAG (Retrieval-Augmented Generation), Model Evaluation, Data Visualization.