Jawahar Sai Nathani

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Education

Texas A&M University, College Station, TX Jan 2024 - Aug 2025

Master of Science in Computer Science *GPA: 4.0/4.0*

- Coursework - Deep Learning, Software Engineering, Algorithms, Reinforcement Learning, OS, NLP, Data Mining.

Indian Institute of Technology (IIT Tirupati), India Aug 2018 - May 2022

B.Tech, Computer Science and Engineering *GPA: 8.4/10*

Technical Skills

Programming Languages: Python, C/C++, C Sharp, Java, HTML, CSS, MySQL, JavaScript, TypeScript

Machine Learning & AI: PyTorch, Tensorflow, LangChain, Keras, Scikit-Learn, OpenCV, Generative AI

Web Development: AngularJS, .NET Framework, Django, NodeJS, Kubernetes, MongoDB, Kafka, Elastic Search, REST APIs

Tools & Cloud: Git, Docker, Azure Cloud, AWS (Lambda, EC2, S3), Spark, Tableau, SQL Server, Pinecone VectorDB

Professional Experience

Texas A&M University College Station, TX

Graduate Research Assistant (Encando.AI) *May 2024 - Present*

- Implemented a **RAG**-based chatbot to assist students with concept explanations and mathematical calculations on an educational platform offering 25+ master's courses, resulting in a 40% increase in platform usage.
- Streamlined an **automated RAG pipeline** to convert course materials into a vector database and fine-tune the LLM, resulting in a 18% improvement in chatbot accuracy for answering student queries.
- Leveraged advanced **NLP** techniques and built an **LLM**-based question generation model utilizing course materials to create questions with advanced reasoning, decreasing professor workload for exercise preparation by 50%.

Research Assistant (Stochastic Geo-mechanics Lab) *Feb 2024 - Apr 2024*

- Visualized dashboards for multiple stages of supply chain with over 1000+ datasets processed using Dataiku and created templates using **Angular**, **.NET** Framework and **Tableau** for advanced data visualization.
- Leveraged Bayesian machine learning models to analyze the impact of various risk scenarios on supply chain dynamics.

GEP Worldwide Hyderabad, IN

Software Engineer *Jul 2022 - Nov 2023*

- Developed efficient **.NET RESTful APIs** leveraging **Software Design Patterns** that supported high traffic loads, increasing system reliability. Introduced cloud-native solutions that reduced server costs by 15%, using Azure and Kubernetes.
- Led the implementation of low-code functionality using **Angular plugin architecture** for shipment division applications, resulting in a significant 25% reduction in development man-hours.
- Collaborated with the platform team to migrate 150 million documents from SQL to MongoDB by consolidating multiple schemas into a unified structure using **PySpark RDDs** and **Azure Databricks**, achieving a 12% reduction in database load.
- Mentored 2 junior developers, enhancing their skills in Angular, .NET and MongoDB to improve team productivity.
- Recognized with **Spot Recognition and Catalyst awards** for outstanding contributions.

Software Engineering Intern *May 2021 - Jul 2021*

- Designed an end-to-end **Angular plugin** and .NET API endpoints, allowing over 140 clients to search, access and update real time **domain-specific** inventory data, reducing overall processing time.
- Introduced automation testing techniques for legacy code and improved code coverage by 52% through the implementation of unit tests and optimized testing strategies, significantly enhancing code quality and stability.
- Secured **1st prize in Techathon** competition conducted for GEP interns across India.

Projects

AKSHARA Annotator | *PyTorch, OpenCV, ReactJs, Django, Flutter* | *Github*

- Built a web-based crowdsourcing application to digitize and store handwritten medical prescriptions, integrating a text layer feature to optimize document search. Developed a mobile application for scanning documents.
- Architected a CNN with only 2 layers, sufficient enough to capture a single sub-region category (label), resulting in minimal training time of 2 minutes. Achieved 94.5% accuracy on Devanagari Handwritten dataset.

Python Code Generation | *Python, NLP, Tkinter, Docker* | *Github*

- Designed a text editor with real-time speech recognition and natural language processing, capable of converting voice commands into Python code snippets and enhancing coding efficiency.
- Implemented a **BERT**-based model for generating and documenting Python code, and incorporated search based web scraping to retrieve relevant code snippets, reducing coding time by an average of 20%.