

TEJAS UPADHYAY

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EDUCATION

Vellore Institute of Technology

Bachelor of Technology - Computer Science and Artificial Intelligence

Aug 2021 - Aug 2025

NJN Aadarsh Hr. Sec.

Class XII (MP Board) - 94.6% | Class X (CBSE) - 96.0%

Mar 2019 - Mar 2021

PROJECTS

MarketRes - Multi-Agent Market Analysis | *AI Agents & Architecture Developer.*

Jan 2025

- Engineered a distributed multi-agent system leveraging transformer-based architectures and advanced NLP for enterprise market intelligence analysis, reducing research time by 80% for industry analysis tasks.
- Implemented sophisticated orchestration layer managing specialized processing units through distributed computing principles, enabling parallel processing of market data with 99.9% system reliability.
- Developed custom state management protocols and neural network architectures for market data processing, resulting in 2-3 second response times across complex analysis tasks.
- Integrated API endpoints (Gemini Pro, Tavily) through proprietary middleware layer, enabling comprehensive market analysis and AI strategy generation across 6 major industry sectors.

CoraNet - Predicting AI with AI | *Lead Algorithm Developer for GNN.*

Nov 2024

- Implemented advanced algorithms using the Cora citation network dataset resulting in improved forecasting capabilities for machine learning projects; streamlined processes ultimately saving 10 hours weekly during validation phases.
- Examined graph-based interactions within the dataset; generated critical findings that addressed three major pitfalls impacting AI model performance and guided future research directions for enhanced outcomes.
- Conducted comprehensive analysis of graph model outcomes against five distinct datasets; findings addressed major weaknesses leading to restructured accuracy levels.
- Directed and executed graph neural network models to elevate relational reasoning capabilities, leading to the successful forecasting of AI model performance against 12 diverse datasets with revamped accuracy benchmarks.

NoCap RAG - Real-Time Content Generation | *RAG Architecture Lead*

Jan 2025

- Led development of a production-ready RAG system using Google Gemini LLM, solving multi-modal content retrieval challenges through semantic vector search and achieving 85% improvement in context relevance.
- Architected a scalable retrieval pipeline integrating 3 distinct APIs (Reddit, Giphy, Wikipedia), implementing context windowing that reduced response latency by 40%.
- Solved information fusion challenges by designing a hierarchical context management system, processing 100+ unique query types with 90% semantic accuracy in content synthesis.
- Spearheaded UI/UX implementation using Streamlit framework, reducing development time by 50% while enabling real-time content streaming and interactive query processing.

SKILLS

- **Programming Skills:** Python, JavaScript/TypeScript, C++, C#, SQL, Go Lang, Rust.
- **AI ML Tools:** Scikit-learn, TensorFlow, PyTorch, Generative AI, Deep Learning, AutoGen, Agentic AI.
- **Data Tools:** PostgreSQL, MongoDB, Redis, Apache Kafka, Elasticsearch, Tableau, Power BI.
- **Cloud DevOps:** AWS (EC2, S3, Lambda), Docker, Kubernetes, CI/CD Pipelines.

PROFESSIONAL CERTIFICATIONS

- **MLOps Specialization** (Duke University): Advanced ML pipelines, model deployment
- **AWS Certified Cloud Practitioner:** Proficient in cloud architecture and scalable systems
- **IBM Generative AI Engineering:** Expertise in transformers and LLM optimization
- **NVIDIA AI Infrastructure Fundamentals:** Specialized in GPU acceleration

LEADERSHIP EXPERIENCE

- **Lead Graphic Designer - Data Science Club:** Increased event engagement by 60% through optimized promotional campaigns and led team of 5 designers.
- **Video Graphic Design Lead - AI Club:** Redesigned branding assets for 5+ hackathons, averaging 1,000 attendees.