Venkata Manideep Patibandla

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EDUCATION

Sacred Heart University, Fairfield, CT   Jan 2024 - May 2025
Master of Science in Computer Science (GPA: 3.8/4)
    Notable Coursework: AI/DL, NLP, Computer Vision, LLMs, AWS, Statistical Machine Learning.
    Honors: Recognized for discipline and outstanding performance as Upsilon Pi Epsilon (UPE) Honor Society.

GMR Institute of Technology, Vizianagaram, India   Aug 2019 - May 2023
Bachelor of Technology, Information Technology (GPA: 8.30/10)
    Publications: A Study on Deep Learning Approaches for Mood-Based Music Recommendation Systems | Link

WORK EXPERIENCE

Infosoft Solutions, Windsor, New Jersey   August 2025 - Present
Data Analyst

- Optimized SQL-based data warehouse architectures processing 10K+ records/day, improving query performance by 45% through efficient schema design and strong data governance while maintaining high data quality standards.
- Conducted A/B testing and analysis on 50K+ user records, applying Python (Pandas, NumPy, SciPy) and advanced statistical techniques on 5K+ datasets to deliver predictive insights with 92% model accuracy through validations.
- Developed Tableau dashboards and performed comprehensive data quality assessments to identify anomalies and trends, reducing discrepancies by 35% and translating findings into actionable business recommendations for stakeholders.

ION Technology Solutions   Jan 2026 – Present
Data Analyst

- Built SQL-based data pipelines across 180+ relational tables on Azure, implementing Python-based ETL workflows that uncovered critical performance metrics and revenue distribution patterns, contributing to reporting solutions.
- Analyzed entertainment industry revenue streams with Python and NumPy statistical techniques, uncovering key growth opportunities and cross-market correlations between genres and event types, which guided senior leadership to prioritize high-impact analytics projects.
- Produced creative and interactive data visualizations using Tableau highlighting artist pricing variations and multi-year revenue trends, enabling executives to make data-driven decisions, showcasing expertise in reporting solutions.

PROJECTS

DeepSeek for Advanced Mathematical Reasoning | Link

- Fine-tuned the DeepSeek-R1-Distill-Qwen-1.5B model for advanced mathematical reasoning, achieving strong multi-step problem-solving performance and outperforming Claude 3.5 Sonnet in controlled benchmark evaluation.
- Reduced trainable parameters by 98.8% using LoRA and doubled inference speed with Unsloth, while building memory-efficient pandas preprocessing pipelines to enable reproducible and optimized AI training.

AI Travel Planner – Agentic LLM Application | Link

- Engineered an agent-based trip planner using Groq-hosted Llama 3.3 (70B) and LangChain to generate multi-day itineraries with dynamic cost breakdowns and transit guidance from natural language inputs, demonstrating strong agentic AI and LLM orchestration capabilities.
- Improved itinerary structuring accuracy from ~60% to 90%+ through advanced prompt engineering and YAML-driven configuration and modular LLM pipeline reducing manual workflow intervention by ~70%.

Retrieval-Augmented Healthcare AI System | Link

- Developed a RAG-based medical chatbot using LangChain, GPT, and Pinecone, indexing 10K+ clinical documents to improve response relevance by ~40% and reduce search latency by ~35% through optimized information retrieval.
- Deployed the system on AWS (EC2, ECR) using Docker and GitHub Actions CI/CD, automating build and release workflows to reduce manual deployment effort by ~70%.

SKILLS & INTERESTS

Programming & Data Engineering: Python,SQL, MongoDB, PostgreSQL, Pandas, NumPy
Visualization & Analytics: Tableau, Power BI, Streamlit, Matplotlib, Seaborn, Statistical Analysis, Forecasting, KPIs
ML&NLP Frameworks: AI/ML, Deep Learning, Neural Networks, Classification, Regression, NLP, LLMs (Large Language Models), RAG, Transformers, TensorFlow, Keras, PyTorch, scikit-learn, Hugging Face, spaCy, LangChain, LangGraph, LangSmith, LlamaIndex, ChromaDB, Pinecone, OpenAI
MLOps & Cloud: Docker, AWS (S3,Lambda, SageMaker), Azure, Flask, API Integration, MLflow, Git, Gitlab, CI/CD

CERTIFICATIONS

- Google Data Analytics Professional Certificate | Credentials
- IBM RAG And Agentic AI Professional Certificate | Credentials