Sree Venkat Chintakula

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Education

Indiana University, Bloomington **Aug 2023 – May 2025**
Master of Science in Data Science *Bloomington, IN*
- Relevant Coursework: Applying ML Techniques in NLP, Predictive Analysis and Data Mining, Data Visualization, Cloud Based Analytics, Advanced Database Concepts, Statistics, Exploratory Data Analysis, Applied Machine Learning

Experience

School of Medicine, Biostatistics and Health Data Science **Jan 2025 – Present**
Graduate Research Assistant *Bloomington, IN*
- Constructed a multimodal pipeline to analyze GWAS with neuroimaging data and clinical data using PLINK, PCA-based population stratification, and APOE mapping to identify genetic drivers of Alzheimer's disease.
- Applied ResNet-50 for MRI feature extraction and transformer models for genomic variant analysis, enhancing multimodal phenotype prediction and disease characterization.
- Preprocessed 100+ GB of fMRI, DTI, and T1-weighted MRI data using SPM12, FSL, and Nilearn, enabling robust brain connectivity analysis via ICA and cross-modal correlation studies.
- Visualized GWAS results with R using Manhattan and QQ plots, improving interpretability of SNP associations with cognitive and imaging phenotypes.

Cognizant Technology Solutions **Apr 2021 – Jul 2022**
Programmer Analyst – BI Insights *Hyderabad, India*
- Facilitated to the design and optimization of ELT data pipelines using Oracle Data Integrator (ODI), ensuring reliable data flow and improving data warehouse performance.
- Formulated and optimized data models and PL/SQL procedures to support faster data retrievals and improve the efficiency of ad-hoc reporting and analytical queries.
- Automated data validation and report-level quality checks, reducing manual monitoring efforts and ensuring high data integrity across reporting environments.
- Created interactive dashboards and customized reports in Oracle Analytics Cloud (OAC) and OBIEE, addressing evolving business needs through advanced SQL and dynamic data modeling.

Inmovidu (in partnership with IIT Bombay) **Sep 2020 - Feb 2021**
Data Science Intern *India*
- Built a deep learning pipeline using Transfer Learning with pre-trained ResNet-50 and YOLOv5 models for COVID face mask detection with facial recognition, achieving 92% accuracy.
- Launched a scalable API with FastAPI and designed a live monitoring dashboard using Power BI, integrating AWS resources for real-time insights and performance tracking.

Projects

Starbucks Procurement Multi-Agent System | *CrewAI, Python, FastAPI, AI, Multi-Agent Systems*
- Designed and implemented an autonomous multi-agent system using CrewAI to automate end-to-end procurement workflows for Starbucks, including supplier sourcing, contract negotiation, and order processing.
- Enabled real-time inter-agent communication and decision-making, improving procurement accuracy and optimizing supply chain responsiveness.
- Built an interactive FastAPI-based dashboard for real-time monitoring and visualization of procurement activities, market trends, and agent performance.

Multimodal Document Analysis Platform | *RAG, AI, LangChain, OpenAI, Streamlit*
- Architected an advanced RAG system processing system supporting 10+ file formats with semantic search, utilizing OpenAI embeddings and vector database to enable context-aware, mapped source-attributed Q&A capabilities.
- Constructed a dynamic Streamlit web interface with adaptive summarization techniques,key point extraction, supporting evidence identification, and cross-document comparative insights using advanced AI techniques.

Autonomous Driving - Car Detection | *YOLO, CNN, Object Detection, Computer Vision, Python*
- Developed YOLO-based CNN models for real-time detection of 15 road objects, reducing training time by 30% and minimizing false positives across diverse real-world datasets.
- Enhanced detection accuracy by implementing IoU-based non-max suppression for bounding box filtering, along with image refinement techniques, ensuring precise visualizations.

Parkinson's Disease Early Detection System | *Machine Learning, Python, TensorFlow, OpenSMILE, PRAAT, Librosa*
- Engineered voice analysis framework achieving **98.31%** accuracy in Parkinson's detection using advanced voice signal analysis with TensorFlow and Keras comparing models like SVM, Random Forest, Neural Networks etc
- Refined multi-modal feature extraction leveraging OpenSMILE, Librosa, and Praat with SMOTE and PCA, enhancing feature quality and reducing dimensionality by **85%** for improved downstream analysis.

Technical Skills and Certifications

Programming Languages: Python, R, SQL, MATLAB, C, C++, Java, PL/SQL
Machine Learning & AI Frameworks: PyTorch, TensorFlow, Scikit-learn, Keras, NLTK, SpaCy, Parselmouth
LLMs & AI Workflow: LangChain, LangGraph, Agents, Retrieval-Augmented Generation (RAG)
Business Intelligence & Data Visualization: Power BI, Tableau, Oracle Analytics Cloud (OAC), OBIEE
Data Engineering & Automation: ETL, ELT, Microsoft Power Automate, ODI, Docker, Excel, Git, Postgres
Cloud & Computing Platforms: AWS, Azure, High-Performance Computing (HPC), Linux, Windows
Specialized Domains: Computer Vision, Natural Language Processing (NLP), Medical Image Processing, Deep Learning
Certifications: Microsoft Certified Power BI Data Analyst Associate, Deep Learning Specialization (DeepLearning.AI), Advanced NLP with spaCy