Venkata Siva Manoj Addala

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Education

University of Illinois Urbana-Champaign 2025 – Present
MS in Statistics (Data Science)

Amrita Vishwa Vidyapeetham, Coimbatore 2021 – 2025
B.Tech in Computer Science (Specialization in Artificial Intelligence) — GPA: 3.85/4

Work Experience

Honeywell Jan 2025 – Apr 2025
AI Intern *Bangalore, India*

- Developed and deployed an LLM-powered chatbot with Azure Cognitive Services and SQL databases to automate Jira ticket resolution, reducing TTR by 40% and scaling across a team of 200+ engineers.
- Designed and optimized data pipelines to preprocess and analyze millions of enterprise records from heterogeneous formats, enabling faster knowledge retrieval and decision-making.

HyperWorks Imaging Aug 2024 – Dec 2024
Machine Learning Intern *Bangalore, India*

- Digitized and modernized 200-year-old geological records using OCR, computer vision, and NLP pipelines, significantly improving accessibility and usability of historical data.
- Developed and fine-tuned multiple supervised machine learning models on digitized geological datasets, employing advanced techniques such as SMOTE, ensemble methods, and feature importance analysis (SHAP, LIME) to address severe class imbalance, achieving a peak accuracy of 97%.

Selected Publications

- A. V. S. Manoj, et al. "Accurate Estimation of Cargo Power Using Machine Learning Algorithms." *Advances in Reliability and Analytics Modeling*, Springer Nature, 2024. doi:10.1007/978-3-031-72636-1_11
- A. V. S. Manoj, et al. "Transformer-based Transfer Learning for Enhanced Speech Dysarthria Severity Assessment." *Proc. 15th Int. Conf. on Computing Communication and Networking Technologies (ICCCNT)*, IEEE, 2024. doi:10.1109/ICCCNT61001.2024.10724295
- N. S. Reddy, A. V. S. Manoj, et al. "Fast Iterative Filtering-Based Deep Belief Network for Accurate Short-term Electric Load Forecasting." *Int. Conf. on Innovative Computing and Communication*, Springer, Singapore, 2024. doi:10.1007/978-981-97-4149-6_35
- N. S. Reddy, A. V. S. Manoj, et al. "Transfer Learning Approach for Differentiating Parkinson's Syndromes Using Voice Recordings." *Int. Adv. Computing Conf. (IACC)*, Springer, 2023. doi:10.1007/978-3-031-56703-2_18
- N. S. Reddy, A. V. S. Manoj, et al. "Classification of Colorectal Cancer Tissue Utilizing Machine Learning Algorithms." *Int. Adv. Computing Conf. (IACC)*, Springer, 2023. doi:10.1007/978-3-031-56703-2_32

Projects

POCOR: Vision-Enabled Autonomous Robot | *ROS2, Gazebo, Computer Vision, Navigation*

- Built an autonomous mobile robot integrating camera and LiDAR perception for real-time path following, obstacle avoidance, and object carrying in both simulation and hardware.
- Implemented ROS2-based navigation pipeline with SLAM, localization, and dynamic obstacle avoidance, enabling reliable autonomous movement in unstructured environments.
- Applied computer vision techniques for environmental awareness, enhancing navigation accuracy and robustness of the robotic system.
- GitHub Repository

Suicide Detection in Twitter Data | *NLP, Deep Learning*

- Analyzed 230K+ tweets using NLP preprocessing, sentiment analysis, and feature extraction.
- Benchmarked LSTM, Bi-LSTM, ELECTRA, and NTK-SVM, achieving 97.8% accuracy with ELECTRA.
- Performed extensive data cleaning, feature extraction, and model evaluation using precision, recall, and F1-score.
- GitHub Link

Research Interests

Machine Learning, Natural Language Processing, Agentic AI, Large Language Models (LLMs), Retrieval Augmented Generation (RAG), Statistical Modeling.

Technical Skills

Programming Languages: Python, R, Java, Scala, MATLAB, SQL, NoSQL, JavaScript

Libraries/Frameworks: NumPy, Pandas, Scikit-Learn, PyTorch, TensorFlow, Keras, Hugging Face, LangChain, OpenCV, NLTK, Matplotlib, Seaborn

Tools & Platforms: Git, Docker, Apache Spark, ROS2, Gazebo, VS Code, Jupyter, MATLAB, AWS, Azure, GCP