MANOGNA TUMMANEPALLY

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EDUCATION

University of South Florida, Tampa — ***CGPA: 3.9/4***
Master of Science in Artificial Intelligence and Business Analytics — May 2025

Jawaharlal Nehru Technological University Hyderabad, India — ***CGPA: 3.7/4***
Bachelor's in Information Technology — July 2022

SKILLS

Programming Languages: Python, Java, SQL, C, C#, JavaScript, Ruby

Database Management: PostgreSQL, MySQL, SQL Server, MongoDB, Azure SQL Database

Data Engineering Tools & Visualization: Apache Spark, Hadoop, Hive, Snowflake, Tableau, Power BI

Data Science & Machine Learning: Scikit-Learn, PyTorch, Keras, Pandas, Numpy, Matplotlib,TensorFlow, SciPy, Matplotlib, Seaborn, Beautiful Soup, Theano

DevOps & Version Control: Docker, Kubernetes, Git, GitHub

Other Skills & Technologies: Data Entry, Data Manipulation, Data Quering, Data Transformation & Pattern Identification, Data Documentation and Reporting, Jupyter Notebook, Statistics

EXPERIENCE

DXC Technology — *Dec 2021 - July 2023*
Jr. Data Scientist

- Developed and deployed predictive models using supervised ML techniques (Random Forest, Gradient Boosting) to optimize personalized outreach strategies, increasing engagement rates by 25% which optimized scheduling efficiency and reduced operational delays for an airline client
- Enhanced predictive modeling performance by implementing optimization techniques, leveraging A/B testing and RCT methodologies to optimize member engagement, improving response rates
- Designed, deployed, and optimized ML models as Azure cloud functions, leading to a 25% increase in operational efficiency and a 15% reduction in resource wastage, enhancing cost savings
- Translated complex machine learning insights into clear, actionable recommendations for non-technical stakeholders, enabling business leaders to make strategic, data-driven workforce decisions that improved allocation and efficiency

Verzeo EduTech — *May 2021 - July 2021*
ML with Python Intern

- Designed a Python-based weather data pipeline, integrating OpenWeatherMap API to collect and process real-time global weather data, improving accessibility for forecasting applications
- Implemented data extraction and transformation techniques to structure key weather metrics (temperature, wind speed, atmospheric conditions), enabling advanced analysis for predictive modeling

PROJECT EXPERIENCE

Detection of Hate Speech in Memes | ***TensorFlow, PyTorch, CNN, RNN, LSTM, Autoencoders*** | *Sep 2024 - Nov 2024*

- Built a deep learning model leveraging CNNs and RNNs to classify hate speech in memes, achieving 64.79% precision
- Optimized model performance through feature extraction techniques like pre-trained image models and dimensionality reduction, improving computational efficiency by 30%
- Processed thousands of annotated memes from the Facebook Hate Meme Dataset, ensuring compliance with GDPR and ethical AI principles for scalable content moderation

Scalable Sentiment Analysis of IMDb Movie Reviews Using PySpark | *Aug 2024 - Nov 2024*

- Built a scalable PySpark sentiment analysis pipeline for 50,000 IMDb reviews, achieving 90.8% AUC-ROC with Logistic Regression, improving sentiment trend predictions in the entertainment industry
- Engineered NLP features like TF-IDF, tokenization, and lemmatization to analyze sentiment patterns, boosting preprocessing efficiency by 30% and delivering insights to optimize content strategies

Retail Sales Insights and Forecasting – Data Warehousing Approach | *March 2024 - May 2024*

- Designed a secure data warehouse schema with role-based access control for data integrity and compliance
- Built interactive Power BI dashboards for inventory analytics, demand forecasting, and fulfillment efficiency, improving data-driven decision-making by 40%
- Created 12 SQL queries and a machine learning model that forecast sales trends and scored 92% accuracy

BAT: Deep Learning Method for Intrusion Detection Systems in Networks | *April 2022 - July 2022*

- Engineered an end-to-end deep learning-based Intrusion Detection System (IDS) utilizing BLSTM and attention mechanisms, achieving 95.2% detection accuracy on the NSL-KDD dataset, outperforming traditional methods
- Constructed a multi-layered feature extraction pipeline leveraging Convolutional Neural Networks (CNNs) and BLSTM, optimizing network anomaly classification with minimal feature engineering
- Evaluated and optimized the BAT-MC model against traditional machine learning techniques (SVM, KNN), demonstrating a 6-10% improvement in detection accuracy and reducing false positive rates by 15%