Nerella Yella Reddy

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SUMMARY

- Data Scientist & AI/ML Engineer with 3.5+ YOE building and maintaining **AI systems, LLMs, and NLP** solutions for healthcare, insurance, and enterprise platforms. Experienced in writing **production-level** Python code, prompt engineering, and developing internal applications to support AI workflows. Skilled in REST API development, **cloud platforms** (AWS, GCP, Azure), containerization with **Docker**, and delivering maintainable, testable solutions. Proven record of expanding platform functionality and improving efficiency through automation and scalable AI tools

SKILLS

- **Programming Language/IDEs:** Python, R Programming, SQL, Jupyter Notebook, Google Colab
- **Machine Learning:** Regression Models, Decision Trees, Random Forests, Naive Bayes, SVM, NumPy, Pandas, Matplotlib, Scikit-learn, TensorFlow, Keras, OpenCV, NLTK, XGBoost, PyTorch, Cohort Analysis, Hypothesis Testing
- **AI & Deep Learning:** CNN, ANN, RNN, ROBERTa, Claude, BERT, GPT-4, Named Entity Recognition (NER), Sentiment Analysis, Text Summarization, LangChain, Large Language Model (LLM), Retrieval-Augmented Generation (RAG)
- **Cloud Platforms, MLOps & DevOps:** AWS (S3, Glue, Redshift, Lambda, SageMaker, Bedrock), GCP (BigQuery, Cloud Run, Vertex AI), Azure (Data Factory, Synapse, Databricks), Docker, Kubernetes, Terraform,MLflow, FastAPI, Flask
- **Database & Visualizations:** SQL Server, PostgreSQL, MongoDB, Tableau, Power BI, Looker, Excel
- **Data Engineering & Big Data:** Apache Spark (PySpark, Spark Streaming), Hadoop (MapReduce, HDFS), Airflow, Kafka, Hive, Delta Lake
- **Data Management & Governance:** Data Cleaning, Data Wrangling, Data Transformation, Data Mapping, Data Modeling, Data Warehousing Concepts, Data Quality, Regulatory Compliance (GDPR, CCPA)

EXPERIENCE

- **Cigna Health | Data Scientist | Saint Louis, USA** *Sep 2024 - Present*
  - Engineered secure **AWS-based data pipelines** (Glue, Redshift, S3) for real-time claims analytics and utilization tracking, delivered Tableau/SSRS dashboards, improving latency by 30–40%.
  - Integrated EHR data with **RAG models** and deployed **GenAI chatbots** using Bedrock, boosting digital engagement and improving member self-service by 20% across care navigation.
  - Automated **HIPAA-compliant** model deployment with CodePipeline, Docker, and GCP Kubernetes, ensured scalable, audit-ready analytics workflows aligned with CMS and NCQA standards.
  - Built high-performance PostgreSQL and Oracle databases to support claims, eligibility, and coordination workflows with HIPAA-compliant design and optimized query performance.
  - Developed and deployed **ML models** (Logistic Regression, Gradient Boosting, CNNs) under Agile for fraud detection, readmission risk, and population health, reducing healthcare data processing time by 25%.
  - Designed AI/ML solutions via **SageMaker**, Bedrock, and **LangChain** for KED/readmission scoring, care planning, and NLP-based medical note summarization to enhance care team productivity.

- **Mphasis | AI/ML Engineer | Hyderabad, India** *Feb 2022 - Jul 2023*
  - Developed and deployed predictive analytics models using **Random Forest** and **SVM** for a leading banking client, improving loan default prediction accuracy by 19% and enabling proactive risk mitigation strategies.
  - Engineered **CNN** and **BERT-based NLP** pipelines for sentiment analysis, text summarization, and NER on multi-lingual customer feedback, increasing text classification precision to 94% and enhancing customer experience analytics.
  - Conducted cohort analysis for retail customer segmentation, identifying high-value customer groups and boosting targeted campaign ROI.
  - Implemented AWS-based data processing workflows for large-scale image and text datasets, reducing model training times by 35% while ensuring data governance compliance.
  - Developed **XGBoost**-based failure prediction models, reducing system downtime by 15%, and NLP pipelines using spaCy and BERT for enhanced root-cause analysis and automated feedback classification, improving efficiency by 20%.
  - Built computer vision solutions using **OpenCV** and **TensorFlow** for automated document verification, cutting manual review effort by 60% for insurance onboarding processes.

- **HCL Tech | AI/ML Engineer | Chennai, India** *Jan 2021 - Jan 2022*
  - Developed and deployed regression, decision tree, and **XGBoost models** for a European retail client, improving demand forecasting accuracy by 21% and optimizing inventory allocation across various store locations.
  - Implemented **CNN-based** image classification for product defect detection, achieving 92% accuracy and reducing manual inspection workload by 35%.
  - Built automated ETL pipelines for multi-source data (PostgreSQL, MongoDB, flat files) using **Azure services**, cutting data preparation time from 10 hours to under 3 hours per cycle.
  - Designed and published **Power BI dashboards** with DAX and Power Query to monitor sales trends, inventory levels, and quality KPIs, enabling leadership to make data-backed decisions in real time.
  - Performed extensive data cleaning, mapping, and quality checks on GDPR/CCPA-regulated datasets, ensuring 100% compliance with client data privacy and retention policies.

EDUCATION

Master of Science in Computer Science | Southeast Missouri State University, GPA: 3.7/4.0, MO, USA *May 2025*
Bachelor of Engineering in Computer Science & Engineering | VelTech University, GPA: 8.7/10, chennai, India *May 2023*