

NIRANJAN REDDY SADULA

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EDUCATION

Stevens Institute of Technology, Hoboken, NJ Master of science (M.S.), Machine Learning, GPA: 3.87/4.00	Aug 2023 – Dec 2024
Indian Institute of Technology, Patna Bachelor of Technology (B.Tech.), Electrical Engineering, GPA: 3.3/4.0	Aug 2017 – Jul 2021

RELEVANT COURSEWORK

Machine Learning, Deep Learning, NLP, Big Data Technologies, and Computer Vision.

PROFESSIONAL EXPERIENCE

Quantiphi Inc., Mumbai Machine Learning Engineer	Jan 2022 – Aug 2023
<ul style="list-style-type: none">Engineered scalable event-driven workflows using Google Cloud Functions, Cloud Storage, and BigQuery to process large number of product purchase invoices, reducing data redundancy by 30%, boosting processing speeds by 50%.Achieved substantial improvements in workflow efficacy for invoicing by deploying automated solutions via Google Document AI, reduced average processing duration per document from 30 minutes down to just 10 minutes per item processed.Implemented event-driven triggers with Kafka and automated ETL workflows using Airflow and Cloud Dataflow, reducing system latency by 50% while optimizing data validation with Vertex AI notebooks.Designed and deployed a real-time alerting and monitoring system using Google Cloud Monitoring and Logging, ensuring 100% visibility into ETL pipeline performance, and reducing failure detection time by 70%.Researched deep learning techniques for five healthcare use cases, including AI-assisted medical imaging and patient readmission prediction, exploring strategies to enhance diagnostic accuracy and clinical outcomes.Leveraged AlphaFold for protein structure prediction, improving drug efficacy analysis by 30% through detailed molecular interaction insights, accelerating biomedical research.	
Quantiphi Inc., Mumbai Machine Learning Intern	Sep 2021 – Dec 2021
<ul style="list-style-type: none">Developed an AI-driven vehicle damage assessment system leveraging machine learning to automate damage detection, enhancing accuracy by 20% and optimizing processing time, achieving an inference speed of under 250ms.Created a scalable ML pipeline using TensorFlow, MLflow, and Prometheus, optimizing model tuning and monitoring across 100+ experiments, ensuring 95% reproducibility.Promoted to a full-time ML Engineer after a high-impact internship, optimizing ML pipelines and enhancing model efficiency with TensorFlow implementation and analysis of 10+ state-of-the-art research papers during an intensive 4-month trainee program.	

PROJECTS

AI-Powered Fitness Tracker and Health Monitoring Bot Python, GCP, Docker, LLM, Langchain	GitHub
<ul style="list-style-type: none">Developed an AI-driven health monitoring bot using WHOOP API, Google Cloud, and LLMs, generating personalized insights with visualizations, reducing manual reporting by 15 hours per week, and improving user engagement.	
Analysis of Adverse Drug Effects Using Big Data and Cloud Computing Apache Airflow, MLFlow, DataBricks	GitHub
<ul style="list-style-type: none">Streamlined an ELT pipeline with Apache Airflow to process 100GB of openFDA JSON data, optimizing Parquet-based storage and enhancing ML model performance, achieving 92% accuracy with a fine-tuned Multi-Layer Perceptron (MLP) model.	
Multilabel Image Classification Python, PyTorch, Sklearn, Pandas, CV2, PIL, Matplotlib	GitHub
<ul style="list-style-type: none">Designed and fine-tuned a ResNet-50 model for multi-label face attribute classification on the CelebA dataset, achieving 90% validation accuracy and a 20% F1-score boost through advanced hyperparameter tuning.	
ConversationalAI with RAG & LLMs Python, LLM, Streamlit, Llamaindex	Github
<ul style="list-style-type: none">Engineered a context-aware chatbot leveraging Retrieval-Augmented Generation (RAG) with Cohere's Command R+, Meta's Llama-3, and Ollama's Gemma, optimizing knowledge retrieval and response accuracy. Crafted an interactive interface with Streamlit to promote accessibility. Crafted an interactive Dashboard using streamlit to enhancing user engagement and accessibility.	

TECHNICAL SKILLS

Programming: Python, R, SQL, Java, Bash Scripting.
Packages: Scikit-Learn, NumPy, Pandas, Matplotlib, SpaCy, NLTK, TensorFlow, Pytorch, Pyspark, OpenCV, Langchain.
Big Data & Cloud: Apache Spark, Kafka, Google Cloud (BigQuery, Vertex AI, Firestore, DocAI), AWS, Snowflake, Databricks.
DevOps & Tools: Docker, Kubernetes, Apache Airflow, Git, MySQL.
Domain Skills: ETL & Data Processing, Data Visualization, Web Mining, Machine Learning, ETL frameworks, Statistical Modeling, Natural Language Processing, Generative AI, RAG.
Certifications: Google Cloud Associate Cloud Engineer, AWS Solution Architect Associate.