Anish Rao Toorpu

Raleigh, NC 27606 |(+1) 919-539-7818 | atoorpu@ncsu.edu | Anish Rao Toorpu | anish-portfolio-eight.vercel.app

EDUCATION

North Carolina State University, Raleigh NC, USA **August 2023 - May 2025**
Master of **Computer Science** **GPA: 4.0/4.0**
Coursework: Neural Networks and Deep Learning, Design and Analysis of Algorithms, Software Engineering, Automated Learning and Data Analysis, Object-Oriented Design & Development

Anurag University, Hyderabad, India **August 2019 - May 2023**
Bachelor of Technology in **Artificial Intelligence** **GPA: 8.66/10.0**

TECHNICAL SKILLS

Languages: Python, R, Java, SQL, Go, Scala
Analytics & BI: Power BI, Tableau, R-Studio, Looker Studio, SAS
Databases: MySQL, Oracle, NoSQL, PostgreSQL, Snowflake, BigQuery
Warehousing & ETL: Databricks, ETL
Cloud & Platforms: AWS, GCP, Azure, Git, Docker, Jira, Kubernetes

EXPERIENCE

Software Engineer, iSimcha, LLC **May 2025 - Present**
- Built a React (TSX) front end paired with Python functions for LLM-powered summary generation, enhancing end-to-end processing throughput by 30%.
- Fine-tuned domain-specific LLM's on healthcare datasets reducing model perplexity by 18% and improving translation accuracy for complex medical terminology and integrated LiteLLM for inference calls.
- Deployed Google Cloud Functions on Firestore to orchestrate model workflows and store results in Firebase, and collaborated on evaluation protocols to improve model selection efficiency by 25%.

Machine Learning Engineer, North Carolina State University **September 2023 - May 2025**
- Engineered and implemented an LSTM-based Anomaly Detection System for the BTEC Water Treatment Facility, elevating operational efficiency by 40% through accurate forecasting and issue detection.
- Refined secure token retrieval and enhanced GraphQL request handling, enhancing data security and reducing data retrieval issues by **30%.**
- Designed visualization tools and automatic email notifications, facilitating operational management and timely responses to anomalies, resulting in a **25%** improvement in system reliability.
- Utilized Python for in-depth data analysis on student mental health and transfer preparedness, providing insights that directly informed university program enhancements.
- Automated data pipelines using Python and SQL to streamline data collection, processing, and reporting, significantly reducing manual workload and improving accuracy.

Software Engineer, Cognizant Technology Solutions **February 2023 - June 2023**
- Architected and deployed scalable loan management systems using Java and Spring Boot, driving a 30% increase in operational efficiency.
- Collaborated with cross-functional teams using Git and Jenkins to identify and resolve bugs in the loan management applications, resulting in a 20% reduction in customer complaints and improved system stability.
- Automated critical processes with Kafka for real-time event streaming, minimizing manual efforts and boosting productivity while achieving notable cost reductions.

PROJECTS

SAS-Based Financial Risk Analysis Platform
- Utilized **SAS Base**, **PROC SQL**, and **SAS Enterprise Guide** to analyze synthetic bank transaction data for potential AML risk patterns.
- Designed data workflows to import, cleanse, and join large CSV datasets, applying summary statistics and conditional logic to flag anomalies.
- Generated automated reports and visual dashboards to present suspicious activity summaries, improving investigation turnaround time by 35%.

Gene Based Cancer Classification
- Transformed diverse gene mutation data, encompassing single nucleotide polymorphisms, insertions, and deletions, into a comprehensive genetic mutation map using TensorFlow and Keras with an accuracy rate exceeding **95%.**
- Built an image-based genomic pan-cancer classifier using Inception-ResNet-v2 and 310x310 genetic mutation maps, optimizing with Guided Grad-CAM and achieving high F1 scores using TensorFlow and Keras.
- Employed deep learning networks to accurately classify distinct cancer types with a precision rate of **92%**, leveraging the mutation map, demonstrating proficiency in bioinformatics and machine learning integration.