

LAYAKISHORE REDDY DESIREDDY

+1 (732) 532-9087 ♦ New Brunswick, NJ

ld786@scarletmail.rutgers.edu ♦ [Linkedin](#) ♦ [Github](#)

EDUCATION

Rutgers, the State University of New Jersey - New Brunswick

Aug 2023 - May 2025

Master's in Data Science

CGPA: 3.7/4

Courses: Natural Language Processing, Database Management System, Machine Learning, Regression and Time Series

Indian Institute of Technology, Tirupati

Aug 2018 - May 2022

Bachelor's in Electrical Engineering

CGPA: 8/10

Courses: Reinforcement Learning, Advanced Deep Learning, Computer Vision, Robotics and Automation

TECHNICAL SKILLS

Programming Languages C, C++, C#, Java, Python, JavaScript, R.

Data Science Frameworks TensorFlow, PyTorch, Keras, OpenCV, Numpy, Pandas, Scikit, Seaborn.

Web Frameworks/ Tools Angular, Spring Boot, Dotnet, Jenkins, Docker, Kubernetes, CI/CD pipelines.

Databases MongoDB, MySQL, Elasticsearch, Cassandra.

PROFESSIONAL EXPERIENCE

Software Engineer

Jul 2022 - Aug 2023

Optum

- Architected and implemented end-to-end features within a microfrontend architecture using Angular and Spring Boot, deployed on Google Cloud Platform (GCP). Created dynamic, interactive, and modular Angular pages and complex forms (including custom validations and role-based access control) to enhance user experience across independent applications.
- Designed and implemented RESTful APIs within a microservices architecture using Spring Boot, leveraging Spring Data JPA and MySQL for efficient data management. Deployed and managed these services on GCP, ensuring security and compliance through JWT authentication and role-based access control.
- Integrated CI/CD pipelines to automate builds, tests, and deployments, conducting rigorous testing using Jest, JUnit, and Mockito to ensure high standards of security, functionality, and reliability.
- Designed and built a .NET monitoring tool to identify failed records and automate reprocessing, reducing manual intervention by 75% and improving reliability.

Machine Learning Engineer Intern [Link](#)

May 2021 - Jul 2021

Ziroh Labs

- Engineered unique and sophisticated Deep Neural Network models tailored to training on encrypted data using fully homomorphic encryption (FHE), addressing the challenges standard DNN models face with FHE data.
- Resolved key challenges to achieve a 99.2% accuracy rate, optimizing performance to within a 0.5% margin of standard deep neural networks trained on unencrypted data.

ACADEMIC PROJECTS

ChessGPT: Using Natural Language Processing to Predict the Next Move [Link](#)

Aug 2024 - Dec 2024

- Developed ChessGPT, an AI chess agent utilizing NLP techniques and a custom transformer model to predict best chess moves. Multiple models were fine-tuned using various techniques, including Low-Rank Adaptation (LoRA) for efficiency. The custom-built transformer model outperformed pre-trained models, achieving a 10% win rate and 69% draw rate against Stockfish. A user-friendly web interface was built using Streamlit to enable interactive gameplay.

Real-Time Twitter Search App: A Dual-Database Search & Caching System [Link](#)

Jan 2024 - April 2024

- Developed a real-time Twitter search app that streams and indexes tweets and user data. Utilized MySQL for user storage, Elasticsearch for advanced search with engagement-based ranking, and a custom LRU cache to boost query performance by 100x, ensuring scalability and efficiency.

NYC Vehicle Collisions Analysis [Link](#)

Feb 2024 - Mar 2024

- Built an interactive dashboard analyzing NYPD collision data to identify high-risk areas and trends. Used DBSCAN clustering, Plotly, and Folium to visualize patterns, focusing on pedestrian and cyclist incidents for urban safety.

Efficient Resource Allocation for Object Detection on Edge/Fog Platforms [Thesis](#)

Aug 2021 - May 2022

- Developed a scalable object detection system on Raspberry Pis to efficiently utilize their full computational capacity for deep learning algorithms. Orchestrated horizontal scaling across 6 devices, implementing a custom load balancing algorithm and achieving real-time performance at various target FPS. Utilized control theory and Docker Containers to optimize load balancer and allocate resources optimally and ensure synchronized operation.