

Aditya Rallapalli

LinkedIn: aditya-rallapalli
Github: Raditya0902

Email: arallapa@asu.edu
Mobile: +1 (480) 995-0109

EDUCATION

- Arizona State University** Tempe, AZ
 - MS - Data Science, Analytics, and Engineering; GPA: 4.22* Jan 2025 - Graduting in Dec 2026
 - Relevant coursework:* Data Mining, Data Processing at Scale, Topics in Natural Language Processing, Statistics for Data Analysts
- National Institute of Technology, Manipur** Imphal, India
 - Bachelor of Technology - Electronics and Communication Engineering; GPA: 8.17* Dec 2020 - May 2024
 - Relevant coursework:* Data Structures and Algorithms, Computer Networks, Operating Systems, Database Management System

EXPERIENCE

- LetsGrowMore** Remote
 - Data Science and Web Developer Intern* Aug 2024 – Sept 2024
 - Implemented deep learning pipelines:** including semantic segmentation on the CamVid dataset using DeepLabv3+ and ResNet-18, achieving 90.78% accuracy and 69.43% MeanIoU across 11 urban scene classes.
 - Developed computer vision model:** for disease detection in paddy leaves using Convolutional Neural Networks, reaching 92.8% classification accuracy across 3 prevalent crop diseases.
 - Built responsive web applications:** integrating ML models into full-stack systems with Node.js, Flask, and React, enhancing functionality and enabling real-time data insights.
- BSNL** Eluru, India
 - GSM Intern* May 2024 – June 2024
 - Assisted in telecom network operations:** by supporting GSM and optical fiber communication infrastructure, including installation and troubleshooting.

SKILLS

- Languages:** Java, C, C++, C#, Python, HTML, CSS, JavaScript, TypeScript, Go
- Frameworks:** React.js, Next.js, Node.js, Express.js, Flask, NumPy, Pandas, Tailwind CSS, LangChain
- Tools:** MySQL, MongoDB, Neo4j, ChromaDB, Docker, Kubernetes, Standard ML & DL Algorithms, NLP, LLMs
- Platforms:** Windows, MATLAB, MongoDB, Unix, Linux
- Soft Skills:** Event Management, Writing, Time Management

PROJECTS

- Real-Time Graph Analytics Pipeline:** Designed and deployed a **real-time graph analytics pipeline** on **Kubernetes**, integrating **Apache Kafka**, **Neo4j (GDS plugin)**, and **Kafka Connect** for continuous ingestion of **NYC taxi trip data**. Built **batch and streaming workflows**, scaling ingestion from 1.5K relationships to ~150 msg/sec with <200ms latency. Implemented **PageRank** and **BFS algorithms** for influence analysis and pathfinding, and optimized deployments by resolving **OOM errors** and connector misconfigurations through fine-tuned **Kubernetes manifests** and **Cypher mappings**. **Tech stack:** Python, PyArrow, Pandas, Apache Kafka, Kafka Connect, Neo4j GDS, Cypher, Kubernetes, Docker, Helm.
- PhishGuard AI - Phishing Detection System:** Developed and compared two **phishing detection approaches**: **ML-based models (XGBoost, Random Forest)** using URL and content features, and an **LLM-driven system** leveraging **LangChain** and **OpenAI SDK** for **semantic HTML analysis**. Automated feature extraction with **Playwright** and integrated **VirusTotal API** for threat intelligence. LLM approach improved detection of **semantically complex phishing attacks**. **Tech stack:** Python, Flask, XGBoost, Random Forest, Playwright, LangChain, OpenAI SDK, VirusTotal API, Chrome Extensions.
- RAG Driven Quiz Bot:** Developed an **AI-powered quiz generation platform** leveraging **Retrieval-Augmented Generation (RAG)** to create **context-aware questions** from domain-specific documents. Implemented a **Flask backend** with **LangChain**, **Ollama LLM**, and **ChromaDB** for document chunking, embedding, retrieval, and question generation (**MCQs, true/false, open-ended**). Built a **responsive Next.js frontend** with **React** and **Tailwind CSS** for interactive quiz creation and evaluation. **Tech stack:** Python, Flask, LangChain, Ollama, ChromaDB, Next.js, React, Tailwind CSS.

CERTIFICATES & ACHIEVEMENTS

- Machine Learning A-Z: AI, Python & R + ChatGPT Prize [2024]:** Gained practical experience in core AI and machine learning techniques such as regression, classification, clustering, and model evaluation using Python and R. Applied these concepts through end-to-end projects, enhancing problem-solving and analytical skills.
- Deep Learning A-Z 2024: Neural Networks, AI & ChatGPT Prize:** Acquired in-depth knowledge of deep learning architectures including CNNs, RNNs, and autoencoders. Implemented real-world projects that strengthened expertise in computer vision, natural language processing, and optimization of neural networks.
- The Web Developer Bootcamp 2023:** Learned full-stack web development technologies, covering front-end (HTML, CSS, JavaScript, React) and back-end (Node.js, Express, MongoDB). Built responsive, scalable applications and gained hands-on experience with RESTful APIs, authentication, and deployment.
- LeetCode:** Solved 220+ problems across arrays, trees, graphs, and DP, strengthening algorithmic problem-solving.
- Software Engineering Virtual Experience Program (Goldman Sachs-Forage, 2023):** Built practical skills in cybersecurity and software engineering (cracked leaked password database).