Anirudh Iyengar Kaniyar Narayana Iyengar

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EDUCATION

Arizona State University — Tempe, AZ
Master of Science in Robotics and Autonomous Systems - Artificial Intelligence — December 2024

Dayananda Sagar University — Bengaluru, India
Bachelor of Technology in Computer Science and Engineering — May 2020

WORK EXPERIENCE

Software Engineering - ML Infrastructure Intern — January 2025 - Present
Local Grown Salads

- Establishing API endpoints using **FastAPI development** for IoT device state and sensor data management in a **PostgreSQL** database on **AWS** and deploying **Docker** containers for cross-system consistency and scalability.

Software Engineering - AI/ML Intern — June 2024 - December 2024
Axyo (Synapse Labs Inc.)

- Created an end-to-end **ETL pipeline** for automated payment reconciliation, decreased manual time by 70%; Leveraged **Amazon Textract** for OCR to extract and convert unstructured data into structured JSON formats.
- Implemented entity resolution and invoice-matching models using **Decision Trees and Random Forest**; Increased classification accuracy from 60% to 80% via transfer learning, boosting matching reliability by 20%.
- Employed **graph-based clustering, TF-IDF similarity scoring, and fuzzy matching** for feature engineering, enhancing deduplication and reducing false positives by **30%**; Built **QuickSight** dashboards and **KPIs**.
- Developed real-time data pipelines using **AWS SQS, Lambda, and SageMaker**; containerization and orchestration via **Docker, Kubernetes, Terraform** and indexed processed data in **DynamoDB** for fast retrieval and historical tracking.

Deep Learning Research Aide — July 2023 - June 2024
ASU College of Health Solutions, JLiang Lab

- Implemented regression, segmentation, and localization models for 2D chest X-ray analysis using **Deep Neural Networks, CNNs, and Transformers** in PyTorch, collaborating with Valleywise Health to improve accuracy and efficiency.
- Fine-tuned **NLP models (GPT-4, CLIP, RAM++)** on electronic healthcare reports using **Qdrant - Vector Database** for query classification, boosting performance by **5%**, and presented model benchmarks with **Power BI** dashboards.

Software Developer — January 2021 - December 2022
HIB

- Initiated and led an OCR-based pipeline using **PyTesseract** to digitize 150,000 handwritten bills, minimized manual data entry time by **40%**; utilized **Python, SQL, and Pandas** for data preprocessing, entity resolution, and key-value extraction.
- Applied **XGBoost and Random Forest** regression models to identify daily product trends, refining pricing strategies and generating weekly reports, achieved **15% revenue growth** and a **10% increase in customer satisfaction**.
- Programmed a customer segmentation model using **K-Means clustering**, identifying high-value customer groups and amplifying marketing campaigns, leading to a **7% increase in repeat purchases** and improved campaign ROI.
- Designed **Tableau** interactive dashboards to track and visualize sales trends, reducing **weekly analysis time by 10%**.

PROJECTS

AI Hotel Reservation System | *LightGBM, MLflow, Jenkins, GCP, Data analysis, Machine Learning*. — Present

- Integrated a hotel reservation prediction system with **5% improved accuracy** using **LightGBM**, **MLflow** for tracking, **Jenkins for CI/CD** automation, and deployed on **Google Cloud Run** for efficient and scalable inference.

Integration of RAG with Open Source LLM and LangChain | *RAG, NLP, Quadrant, LangChain* — Present

- Enhanced source accuracy by 2% using **Qdrant, BGE-large-en-v1** embeddings, and **LangChain with LLM (BERT)** in an optimized pipeline for seamless **text generation in Q&A and research summaries**.

Mapping Accident Trends and Patterns in Maryland | *D3.js, Javascript, HTML5, CSS3/SCSS* — December 2024

- Developed visualizations like **Car-in-a-Clock, Mosaic Chart, Tree Map, Geo-Spatial Mapping, and Pie Matrix** for The PacificVis Storytelling Contest, with enhanced interactivity via scroll effects, hover actions, and tooltips.

TECHNICAL SKILLS

Languages: Python, Java, C, C++, SQL, HTML, MATLAB, Bash, R, CSS, JavaScript, D3.js, TypeScript.
Frameworks: PyTorch, Kubernetes, SciPy, PySpark, Scikit-Learn, OpenCV, NumPy, Pandas, Matplotlib, Seaborn, TensorFlow, Huggingface, Transformers, Jupyter, Detectron2, OpenAI API, Apache Spark, Airflow, FastAPI.
Tools/Platforms: Tableau, MLFlow, NLTK, Jenkins, AWS QuickSight, MySQL, SageMaker, Excel, PowerPoint, Visual Studio Code, Git, Docker, CI/CD Pipelines, Google Cloud Run, BigQuery, Vertex AI, Cloud Storage, Pub/Sub, MangoDB, Databricks.