Abdul Rahim Memon

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Education

Dalhousie University — Halifax, NS

Bachelor of Science in Computer Science — *Expected: May 2027*

- **Relevant Coursework:** Data Science (CSCI 3141), Intro to Software Projects (CSCI 2690), Intro to Database Systems (CSCI 2141).

Nirma University — Ahmedabad, India

Computer Science (First Two Years) – ***CGPA: 9.32/10*** — *Completed*

- **Relevant Coursework:** Probability and Statistics, Data Structures, Design and Analysis of Algorithms.
- Awards: Academic Excellence and Scholar Awards

Experience

Data Analysis Intern — Summer 2024

Unbox Robotics — *Pune, India*

- Enhanced computational efficiency for predictive modeling by applying Principal Component Analysis (PCA) to reduce dataset dimensionality and eliminate redundant features.
- Implemented Hierarchical Clustering to group identical warehouse parameters, effectively isolating relevant variables (layout, parcels/hr) from noise to improve model accuracy.
- Streamlined the data pre-processing pipeline by identifying statistical relationships between parameters, enabling the team to shift from time-consuming manual simulations to a targeted data-driven approach.
- Documented feature selection methodologies and clustering results, establishing a standard protocol for future data optimization tasks.

Technical Projects

Autonomous RAG AI Agent (Sentient Support) | *n8n, Llama 3, Supabase, Vector Search*

- Orchestrated a "Split-Brain" AI support system using n8n to route tickets between a Vector Memory (Supabase pgvector) and a Reasoning Layer (Llama 3), reducing redundant API calls.
- Implemented Retrieval-Augmented Generation (RAG) by integrating Hugging Face embeddings with SQL-based vector stores to ground AI responses in company policy documents.
- Designed a real-time triage pipeline that scores incoming text for sentiment and urgency, automatically triggering Discord alerts for high-priority bugs.

Network Traffic Data Pipeline | *Python, JSONL, TCP/IP, Data Parsing*

- Developed a high-performance data extraction tool to parse raw PCAP network packets into structured JSONL datasets for downstream security analysis.
- Engineered a real-time capture engine using raw sockets to process and normalize high-velocity traffic streams with minimal latency.
- Designed a data schema to standardize unstructured network attributes (IPs, protocols, payloads), ensuring data consistency for potential anomaly detection.

Shoreline Change Detection (Hackathon Project) | *ESA SNAP, QGIS, Remote Sensing*

- Executed a complex satellite imagery processing pipeline on RADARSAT (RCM) data to quantify coastal erosion trends in New Brunswick.
- Applied Speckle Filtering (Lee Sigma) and Radiometric Calibration using ESA SNAP to reduce signal noise and normalize backscatter data for accurate analysis.
- Generated precise vector topologies from raster data in QGIS, calculating erosion rates using the Digital Shoreline Analysis System (DSAS) to visualize shoreline shifts.

Technical Skills

Languages: Python, SQL, R, C++, Java
Libraries & Frameworks: Pandas, NumPy, Scikit-learn, Matplotlib, Streamlit, n8n
Tools & Platforms: Supabase (pgvector), Hugging Face, Git, Linux/Bash, VS Code, ESA SNAP, QGIS
Professional Skills: Attention to Detail, Verbal & Written Communication, Organizational Skills