Sagar Murgan

 Edmonton, AB   msagar2606@gmail.com   (780) 965 5781   in LinkedIn   sagarmcoder

DATA ENGINEER & BACKEND SPECIALIST
Python ● SQL ● AWS Migration ● ETL Pipelines ● System Automation

Data Engineer who migrates mission-critical legacy systems to AWS PostgreSQL clusters, builds ETL pipelines processing 10K+ operational records, and deploys production FastAPI backends with 100% data accuracy for real-time reporting. Skilled in deploying production-grade FastAPI backends and optimizing PostgreSQL workflows for high-volume operational data.

SKILLSET

- **Core Stack:** Python (Pandas, SQLAlchemy, Pytest), SQL (PostgreSQL, MySQL), REST APIs, JavaScript, React
- **Infrastructure & Cloud:** AWS (S3, EC2, RDS), Docker, Neon Serverless, Secret Management, GCP, Azure(Exposure)
- **Data Engineering:** ETL/ELT Design, Data Validation, Schema Design, Streamlit, Power BI.
- **Methodologies:** Agile/Scrum, CI/CD, Test-Driven Development (TDD).

EXPERIENCE

Data Engineering Intern— Sankyu Saudi Arabia, Remote   April 2025 – Aug 2025
- **Legacy System Migration:** Spearheaded the migration of a mission-critical local SQLite tool to a Serverless PostgreSQL (AWS) cluster, enabling secure global data synchronization for teams across Canada and the Middle East.
- **Data Warehouse Architecture:** Engineered the "Work Order 360" relational model to unify 10,000+ fragmented maintenance, QC, and safety logs, creating a single source of truth for operational analytics.
- **Automated Reporting Pipeline:** Built a high-performance Streamlit dashboard backed by Python ETL scripts that resolved character-encoding issues, achieving 100% accuracy in real-time KPI reporting.

Computer Science Tutor — ADA's Team, Edmonton AB   Sept 2023 - Jan 2024
- Created Python debugging templates and algorithm cheat sheets that have been used by 20+ students to improve code quality and reduce syntax errors.

ENGINEERING PROJECTS

Backend Engineer — Enterprise Knowledge Retrieval System (P_AI)   Edmonton, AB — 2025
- **RAG Architecture:** Designed a modular RAG backend using FastAPI and PostgreSQL to ingest, index, and retrieve dense documentation.
- **High-Volume ETL:** Designed scalable ETL pipelines processing 500+ documents into 50,000+ vector embeddings, achieving <200ms query latency for context-aware retrieval.
- **Reliability:** Implemented data validation and error handling to ensure system stability during high-volume document ingestion.

Backend Developer — Vortex Event Management System   Edmonton, AB — 2024
- **Real-Time Infrastructure:** Delivered backend infrastructure utilizing Firebase Cloud Messaging (FCM) to enable real-time notifications for 1,000+ concurrent users.
- **Feature Implementation:** Implemented PostgreSQL-backed event management workflows supporting 500+ concurrent lottery events with real-time participant tracking and automated winner selection.
- **Performance Optimization:** Optimized database queries and workflow logic, reducing event update latency from 2.5s to <300ms for real-time synchronization.

Data Automation Specialist — Construction Link Prediction Tool   Edmonton, AB — 2025
- **Data Validation:** Developed a Python-based validation system to predict and correct missing connections in Building Information Modeling (BIM) datasets.
- **Pipeline Engineering:** Engineered spatial feature extraction pipelines processing 5,000+ building components, cleaning and standardizing data for predictive link validation.
- **Impact:** Achieved an F2 score of 0.91 on data validation tasks, prioritizing the high-risk structural errors.

EDUCATION

B.Sc. Computer Science (Specialization), Business Minor   University of Alberta — 2026
- **Relevant Coursework & Certifications:** Database Management Systems, Software Engineering, Algorithms, Predictive Business Analytics, AWS Cloud Practitioner.