ALZAHAD NOWSHAD

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Nationality - Indian · UAE Driving License · Dubai, United Arab Emirates
Golden Visa - Distinction Student

DATA ENGINEER

PROFESSIONAL SUMMARY

Data Engineer with 1+ year architecting production ETL systems and real-time data pipelines processing 30M+ events monthly for government and enterprise clients. Proficient in Python with expertise in automated workflows, dashboard development, and database optimization. Expanding skill set into machine learning and AI, building energy demand forecasting systems and LLM-powered data quality agents. Skilled in end-to-end data solutions from ingestion to visualization.

TECHNICAL SKILLS

Programming Languages: Python, SQL, JavaScript, Node.js, C++, HTML/CSS
Data Engineering & Orchestration: Apache Kafka, Apache Airflow, Apache Spark, Apache Flink, Apache NiFi, Real-time Data Pipelines, ETL/ELT, Workflow Automation, Data Integration
Databases & Storage: ClickHouse, PostgreSQL, MSSQL, Data Warehousing
Analytics & Machine Learning: Scikit-learn, XGBoost, TensorFlow, Keras, Prophet, Model Training & Optimization, Predictive Analytics
Visualization & BI: Qlik Sense, Power BI, Microsoft Excel, Streamlit, Matplotlib, Seaborn
Development & APIs: Flask, REST APIs, Git, Docker, LangChain, ChromaDB, Groq API
Systems & Platforms: Ubuntu Linux, RedHat Linux, Windows Server, Virtual Machines, Networking

PROFESSIONAL EXPERIENCE

GAMA Security Systems LLC, Dubai
Data Engineer

December 2024 - Present

- Build and manage real-time data collection platforms for alarm panels and surveillance systems, implementing WebSocket relay solutions and MQTT broker integration to aggregate data from devices across different networks into centralized ClickHouse databases.
- Automate data workflows using Apache Airflow, implementing scheduling, monitoring, and error handling mechanisms that reduce manual intervention and improve pipeline reliability across all stages.
- Serve as project lead for a live government data project in Sharjah, managing end-to-end ETL services to ingest and process multi-source alarm data using Python, ClickHouse, and PostgreSQL, delivering live visual insights via Qlik Sense dashboards with continuous enhancements based on weekly client feedback cycles.
- Develop modular Python utilities and microservices for data integration, creating APIs and automation tools that fetch, transform, and integrate data from third-party platforms and internal systems.
- Perform performance tuning and query optimization on PostgreSQL and ClickHouse databases, improving query response times and system performance to support concurrent users and high-volume data ingestion.
- Collaborate with analytics teams and stakeholders to build interactive dashboards in Qlik Sense, translating business requirements into data visualizations that optimize visibility into operational KPIs, alarm system telemetry, and surveillance metrics.
- Implement continuous improvements to dashboards and ETL processes based on client feedback, adding new features, fields, and data sources to meet evolving project requirements.

GAMA Security Systems LLC, Dubai
Data Engineering Intern
August 2024 - December 2024

- Configured and maintained Linux VMs running Kafka, Airflow, and Elasticsearch, supporting 5+ production data pipelines.
- Developed Python utilities processing 10K+ daily records, ensuring 99.5% data quality for downstream analytics.
- Prepared and cleaned datasets for Qlik Sense dashboard consumption, creating initial visualizations and charts to display alarm event data and system operational metrics.
- Conducted data pipeline testing by running test scenarios, logging errors, and documenting issues for senior team review and resolution.
- Executed SQL query optimization tasks on PostgreSQL and ClickHouse, analyzing query execution plans and implementing indexing.
- Documented ETL processes, data flows, and system configurations, creating technical documentation to support knowledge transfer and onboarding.

PROJECTS

LLM-Powered Data Quality Agent

- Developed autonomous AI agent using Groq API (Llama 3.3 70B) that analyzes datasets, identifies quality issues, and generates cleaning recommendations, processing 8,700+ records with intelligent context-aware insights.
- Implemented RAG system with ChromaDB for context retrieval, enabling agentic workflows where the AI autonomously executes multi-step analysis and cleaning operations without human intervention.
- Built production Streamlit dashboard with real-time data profiling, AI-powered Q&A, automated cleaning workflows, and quality reports, achieving <10 second processing for datasets up to 50,000 rows.
- GitHub: https://github.com/zahade/llm-data-quality-agent

Energy Demand Forecasting System

- Developed time-series forecasting system comparing ARIMA, Prophet, XGBoost, and LSTM on 145,000+ hourly energy demand observations, achieving 0.10% MAPE with XGBoost - 99% improvement over ARIMA baseline.
- Engineered 50+ predictive features including lag variables (1h, 24h, 168h), rolling statistics across 5 windows, and cyclical encodings, with feature importance revealing rolling averages as dominant predictors (10x more signal than temporal features).
- Implemented gradient boosting (500 trees, R^2=0.9999) and LSTM deep learning (52K parameters, 0.84% MAPE), demonstrating feature-engineered ML outperforms feature-free deep learning for structured data.
- GitHub: https://github.com/zahade/energy-demand-forecasting

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EDUCATION

Middlesex University, Dubai
BEng (Honors) Computer Systems Engineer
Graduated: May 2024
First Class Honours

Our Own English High School, Sharjah
CBSE Curriculum
Graduated: May 2021
Grade 12 - 84%
Grade 10 - 84%

CERTIFICATES

Cisco Networking Basics	**June 2023**
Cisco Introduction to Cybersecurity	**May 2023**
Cisco Programming Essentials in Python	**August 2022**
Cisco Introduction to IoT	**January 2022**