

Mohamad Abu Abbas

mohamadabuabbass@gmail.com | +961 71 975 084 | Beirut, Lebanon | [LinkedIn](#) | [Portfolio](#)

Professional Summary

Data Engineer specializing in designing and deploying robust, end-to-end batch and real-time data pipelines for diverse applications, including global sales analysis and ride-hailing simulations. Expertise includes ETL/ELT implementation, data warehousing (PostgreSQL), and BI visualization (Power BI, Superset). Successfully orchestrated complex workflows using Apache Airflow and Prefect to deliver actionable intelligence and scalable data solutions.

Projects & Experience

Global E-Commerce Sales Data Pipeline

- Designed and implemented an end-to-end batch data pipeline processing sales data from multiple CSV and Excel sources.
- Cleaned, transformed, and aggregated data using Pandas, then loaded it into a PostgreSQL data warehouse.
- Automated workflows with Apache Airflow to ensure reliable data processing.
- Developed Power BI dashboards visualizing sales trends and regional performance for business insights.

Real-Time Ride-Hailing Data Pipeline

- Developed a real-time streaming data pipeline simulating ride-hailing trip data ingestion using Apache Kafka, processing high-throughput data efficiently.
- Processed and analyzed streaming data with Apache Spark Structured Streaming, ensuring low-latency and scalable computations.
- Stored processed data in PostgreSQL for reliable and structured storage.
- Created live analytics dashboards with Apache Superset to enable real-time monitoring and decision-making.
- Orchestrated and monitored workflows using Prefect to maintain pipeline reliability and performance.

WatchGuard AI - Full-Stack AI Threat Detection System

- Developed a full-stack AI platform to detect misinformation, toxicity, and deepfakes leveraging Hugging Face Transformers.
- Architected a scalable backend with FastAPI, Redis queues, Celery workers, and PostgreSQL for efficient processing.
- Integrated multimodal ML tasks including image classification, object detection, ASR, and text classification.
- Built a React + TypeScript dashboard for real-time content moderation and threat visualization.
- Containerized the application using Docker & Docker Compose; implemented CI/CD pipelines with GitHub Actions for streamlined deployment.

Smart Audit Ops AI - Modular DevOps Automation Tool

- Created a containerized platform automating code quality checks, sentiment analysis, and UI compliance.
- Developed a FastAPI backend supporting real-time ML inference and document-based QA.
- Designed GitHub Actions pipelines for continuous integration and automated Docker image builds.
- Implemented an observability stack using Prometheus, Grafana, Loki, and Redis to monitor system health and performance.

Education

BACHELOR IN COMPUTER SCIENCE

LEBANESE INTERNATIONAL UNIVERSITY | LEBANON

Certifications

AWS Certified Cloud Practitioner • 2025

42 Beirut - 4-week Assessment Program • 2024

Raspberry Pi - LIU Robotics Club • 2023

IoT, Arduino Level 1 & 2 - LIU Robotics Club • 2022 - 2023

L21 English Course - Linguaphone Institute LTD., London, UK • 2019

Skills

Data Engineering & Orchestration: Apache Airflow, Kafka, ETL/ELT workflows, Prefect

Cloud & Tools: Git, GitHub Actions, Docker, Docker Compose, Power BI, Bash, Linux, AWS, PostgreSQL, SQLite, Firebase

Programming: Python, Java, SQL, Pandas, PySpark, NumPy, Hugging Face

Languages: Arabic(Native), English(fluent)