

# BADR ELDINE ZAKARIA

Data & Artificial Intelligence Engineer

Paris, France | +33 7 44 88 05 30 | baderabdzakaria@gmail.com | [GitHub](#) | [LinkedIn](#)

---

## PROFILE

Product-oriented Data & AI Engineer specialized in LLM workflows, agents, RAG/GraphRAG, data engineering and production AI systems. Experience with ETL/ELT pipelines, data repositories, analytics, API portals, multi-service systems, Cloud/DevOps and applied AI projects.

## EXPERIENCE

---

### Smart Mobility Lab – SML, Paris · AI Engineer – GenAI & Data Intelligence · 10/2024 – present

AI Engineer – Fixed-term contract (CDD) | 12/2025 – present

- Scaled the Data/AI platform from 20 to 28 countries, with roughly 10x larger data volume.
- Optimized analytics with ClickHouse to accelerate exploration and use of business data.
- Deployed an API web portal on a multi-service VPS architecture with Docker/Kubernetes.
- Developed GraphRAG and knowledge graph components for agentic workflows and traceability.

Data Scientist Apprentice (AI Engineer) | 10/2024 – 11/2025

- Built the initial 20-country repository with ETL/ELT pipelines using Python, SQL, Snowflake and structured files.
- Implemented normalization, matching, data quality checks, processing logs, enrichment and Prophet forecasting.
- Delivered datasets, dashboards, mobility analyses and client-facing deliverables.

### Zakaa Technologies, Tripoli, Lebanon · AI Engineer – LLM Workflows & RAG · 10/2022 – 12/2023

- Built a Python LLM workflow on Cloud Run to query Firebase in natural language with prompt engineering, query generation and fallback.
- Designed RAG mechanisms and analytical pipelines combining business aggregations, LLM answers and actionable insights.

### DTP, Tripoli, Lebanon · Integration Engineer – Cloud & DevOps · 01/2022 – 09/2022

- Data integration system for aviation, transport and logistics environments using Java Spring, ActiveMQ and MySQL.
- Deployed services on CentOS with Docker/Kubernetes and Grafana/Prometheus monitoring.

### Utrender, Montpellier, France (online) · Machine Learning Engineer – Computer Vision · 01/2021 – 12/2021

- Python/OpenCV system for analyzing interactions with advertising screens and related IoT web application.

### Intelligile, Tripoli, Lebanon · Software Engineer – Software Modeling · 05/2019 – 05/2020

- Software conceptualization and structured problem solving using SWEBOK/UML principles.
- Developed a C++/OpenGL library integrated into MAP software under the supervision of Dr Oussama Ziadé.

## SKILLS

---

**Agents & LLM:** LangChain, LangGraph, CrewAI, AutoGen, SmolAgents, ReAct, Planning, Reflection, Tool/Function Calling, A2A, GPT-4, Mistral, LLaMA, Ollama, local inference, prompt engineering.

**RAG & graphs:** RAG, GraphRAG, Neo4j, Pinecone, hybrid search, entity extraction, citations, traceability, business enrichment.

**Machine Learning:** scikit-learn, TensorFlow, PyTorch, OpenCV, YOLO, Prophet, time series, forecasting.

**Data & backend:** Python, FastAPI, SQL, Firebase, Snowflake, ClickHouse, APIs, n8n, ETL/ELT, normalization, matching, data quality.

**MLOps & Cloud:** MLflow, Docker, Kubernetes, GitHub Actions, Grafana, Prometheus, GCP, AWS, Azure, S3, Cloud Run, logs.

## PROJECTS

---

- **Multi-agent customer support architecture – HETIC, 2026:** 7 agents for collection, classification, sentiment, intent, prioritization, routing and synthesis, orchestrated with LangGraph and tracked with MLflow.
- **Knowledge Graph Creator – DeepLearning.AI / Neo4j:** multi-agent knowledge extraction system, graph schema proposal, relation validation and Neo4j database construction.
- **Video RAG search – ZAKA AI Bootcamp:** question answering on YouTube videos using transcription, chunking, embeddings, indexing and semantic search.

## EDUCATION

---

- **HETIC, Paris:** Master's in Data & AI / Digital Transformation Expert, RNCP level 7, 2023 – 2025.
- **Holberton School:** Machine Learning / AI & Big Data specialization, 2021.
- **Lebanese University:** Bachelor's degree in Computer Science, 2019.

## CERTIFICATIONS

---

DeepLearning.AI / LangChain: AI Agents in LangGraph; A2A: The Agent2Agent Protocol. Neo4j: Agentic Knowledge Graph Construction. CrewAI: Multi AI Agent Systems. Google Cloud: AI & Machine Learning. ZAKA AI: AI Bootcamp; Machine Learning Specialization. Holberton School: ML Expert Learning Path. Startup Seeds – Tripoli Entrepreneurship Club. API and Web Service Introduction. SQL for Beginners – MySQL & Database Design. The Complete Java Certification Course. Linux Command Line Bootcamp. Spring Boot 3, Spring 6 & Hibernate. Docker and Kubernetes: The Complete Guide. Master Spring Boot 3 & Spring Framework 6. Eknovate / Intelligile Software Engineering Bootcamp, 400h+. Operation Engineering Course – Technology Entrepreneurship Club, 100h.

## LANGUAGES

---

French fluent | English fluent | Arabic native