Mouad Elbaz

Junior Python Backend Developer | FastAPI, PostgreSQL, Docker

Agadir, Morocco | +212 751 81 12 01 | elbaz.ouad1249@gmail.com | github.com/moad-cod | Portfolio

Education

Universite Sultan Moulay Slimane 2026
Bachelor in Big Data *Morocco*

ISTA Agadir 2023 – 2025
Technicien Specialise en Reseaux et Systemes *Agadir, Morocco*

Lycee Qualifiant 2022 – 2023
Baccalaureat Sciences Physiques *Morocco*

Professional Experience

Data Engineering & Machine Learning Intern (PFE) Apr. 2026 – Jul. 2026
Prefecture d'Agadir Ida-Outanane *Agadir, Morocco*

- Developed **FastAPI backend services** to expose ticket classification and hardware anomaly detection models, integrated with a **Next.js** dashboard.
- Designed asynchronous **ELT workflows** integrating **200,000+ records** from GLPI ITSM, OCS Inventory, and security logs.
- Orchestrated background data workflows with **Apache Airflow** and transformed data through **Bronze, Silver, and Gold** analytical layers using dbt.
- Integrated a multilingual **RAG backend** using Qdrant, BM25, dense retrieval, Reciprocal Rank Fusion, and Cross-Encoder re-ranking.

Developer Intern Apr. 2025 – Jun. 2025
Prefecture d'Agadir Ida-Outanane *Agadir, Morocco*

- Developed a secure enterprise attendance management system with **RBAC**, multi-tier authentication, session management, IP compliance checks, and structured audit logging.

Projects

CCSR – Backend & Distributed Task Platform | *FastAPI, Celery, Redis, PostgreSQL, Docker* GitHub

- Developed a **Python/FastAPI backend** for a multi-component AI research platform with PostgreSQL state management, document ingestion, and retrieval services.
- Implemented asynchronous task orchestration using **Celery, Redis, and Apache Airflow**, with durable ingestion workflows, task status tracking, and failure recovery.
- Integrated **PostgreSQL, MinIO, and Qdrant** for metadata, artifact storage, and vector indexing; exposed processing events through **Server-Sent Events (SSE)**.

Qwen MedQuAD – Python Data Processing | *Python, Pandas, Data Validation, QLoRA* GitHub

- Developed a reproducible Python data preparation pipeline for **16,357 medical QA records**, including validation, normalization, and data leakage auditing.
- Organized **14,344 normalized question groups** using group-safe dataset splitting for downstream machine learning experiments.

PlantGuard AI – Containerized ML Application | *Python, Docker, Streamlit, PyTorch* GitHub

- Built a plant disease classification application using Python and PyTorch, supporting **38 disease categories** across **70,000+ images**.
- Integrated CNN-based inference and out-of-distribution detection, deploying the application with **Docker and Streamlit**.

Technical Skills

Programming: Python, SQL, Java
Backend Development: FastAPI, REST APIs, Celery, Asynchronous Processing, SSE, Spring Boot, Next.js
Databases & Storage: PostgreSQL, MySQL, Redis, MinIO, Qdrant, FAISS
Data Processing & Orchestration: Apache Airflow, dbt, ETL/ELT, Pandas, NumPy, PySpark
DevOps & Cloud: Docker, Git, Linux, Oracle Cloud Infrastructure (OCI)
AI Integration: RAG, Hybrid Retrieval, BM25, Scikit-learn, XGBoost, PyTorch

Certifications & Languages

Certifications: Machine Learning Specialization (DeepLearning.AI), Introduction to Data Warehousing (365 Data Science), Network Security (Cisco), Microsoft Learn Developer & Cybersecurity Pathways
Languages: Arabic – Native | French – Intermediate | English – Advanced