

# YOUSSEF LAAROUSSI

**Data Scientist** | **AI Engineer** | **MLOps Engineer**
**Data Analyst** | **Data Engineer** | **BI**

Kelaa des Sraghna, Morocco
0697102284
youssefflaar17@gmail.com
linkedin.com/in/youssef-laaroussi
github.com/Youssef-Laaroussi

## PROFILE

Recent graduate with a Master's degree in Big Data & Artificial Intelligence, specialized in Data Science, Generative AI and MLOps. Hands-on experience in designing LLM multi-agent systems, distributed data pipelines and end-to-end Machine Learning/Deep Learning solutions (from prototyping to production), as well as in data analysis and exploitation for decision support. Autonomous, curious and results-oriented, I am actively seeking a position as **Data Scientist**, **AI Engineer**, **Data/ML Engineer**, **Data Analyst** or **BI (Business Intelligence) Engineer** to design and deploy high-value data and AI solutions.

## EDUCATION

**Master's Degree in Big Data and Artificial Intelligence** 2024 – 2026
Polydisciplinary Faculty of Taroudant — Taroudant, Morocco

**Bachelor's Degree in Science and Technology** | ***Option: Distributed Computer Systems*** 2023 – 2024
Faculty of Science and Technology — Marrakech, Morocco

**DEUST**| ***Option: MIPC (Mathematics, Computer Science, Physics, Chemistry)*** 2020 – 2023
Faculty of Science and Technology — Marrakech, Morocco

**Baccalaureate** | ***Physical Sciences*** 2019 – 2020
Hiadna Qualifying High School — Kelaa des Sraghna, Morocco

## PROFESSIONAL EXPERIENCE

**Final Year Project (Bachelor's) – Full-Stack Developer** May 2024 – June 2024
ZSS Smart Services — Marrakech, Morocco

- Design and implementation of an electronic document management SaaS based on a microservices architecture, using Spring Boot and Angular.

**Final Year Project (Master's) – AI Research Engineer & MLOps** Feb 2026 – Jul 2026
Ibn Zohr University — Taroudant, Morocco

- **Design of a Multi-Agent Data Science System with MLOps for Decision Support** – Design and implementation of a multi-agent system (11 LLM agents) orchestrated by LangGraph with MLOps integration to automate the data science lifecycle for decision support.

## PROJECTS

- **SovereignMAS – Sovereign Supply Chain Multi-Agent System** (Python, LangGraph, LangChain) – Design of a multi-agent system automating a sovereign supply chain: demand forecasting, optimal supplier sourcing and regulatory validation of purchases (budgets, embargoes, reserves).
- **AI News Platform – News Platform with AI Agent** (LangGraph, DeepSeek, React, FastAPI) – Web platform integrating an AI agent for news search, analysis, classification and summarization, with a RAG conversational assistant and push notifications.
- **Tawjih.AI – ReAct Agent for Academic Orientation in Morocco** (LangGraph, DeepSeek, Pinecone, PostgreSQL, FastAPI) – Intelligent agent guiding Moroccan high school graduates (schools, majors, scholarships, competitive exams) through autonomous multi-tool reasoning with semantic RAG, security guardrails, LangSmith evaluation, DVC versioning and Docker CI/CD (GHCR).

- **DocuTalk – RAG Agent for Document Analysis** (LangGraph, DeepSeek, React, FastAPI, ChromaDB) – Full-stack RAG platform for PDF ingestion, vector processing and semantic querying, with an autonomous agent, metadata filtering, state management and sourced citations.
- **MLOpsLite (MLite) – Lightweight Self-Hosted MLOps Platform** (Python, Docker, FastAPI, MLflow) – Open-source, self-hosted MLOps platform automating the ML lifecycle: data versioning (DVC), experiment tracking, containerized inference deployment, drift monitoring and rollback.
- **SysNarrator – Open-Source System Monitoring Tool (Python, psutil)** – Development of an open-source tool for real-time monitoring of system resources (CPU, RAM, disk, network and processes), with natural language analysis and intelligent recommendation generation.
- **Real-Time Object Detection on Video** (YOLOv8, OpenCV) – Multi-class detection with display of confidence scores, bounding boxes and object counting.
- **Object Detection on Images** (YOLOv4, OpenCV) – Prediction pipeline including preprocessing, inference and visualization of detected classes.
- **Zmmfy – Restaurant Management Platform** (LangGraph, DeepSeek, React, FastAPI, PostgreSQL) – Multilingual full-stack application with a ReAct-based conversational AI assistant, a 5-step reservation engine and a secure admin dashboard, deployed on Vercel and Render.
- **FinStream – Real-Time Financial Data Lakehouse** – Design of a Lakehouse architecture (Bronze/Silver/Gold) for the ingestion, processing and analysis of real-time financial data.
- **Library Management Application** (Spring Boot, Angular, PostgreSQL) – Complete system for managing books, loans and users, including a REST API, web interface and relational database.
- **Secured Application with OAuth2 & Mail Service** (Spring Security) – Authentication, role management and automated email sending.
- **E-commerce Data Analysis** (Tableau) – Exploration, cleaning, visualization and insight extraction from an e-commerce dataset.

## TECHNICAL SKILLS

**Programming Languages**: Python, Java, C, SQL, R

**Data Science & Artificial Intelligence**: Supervised learning, Unsupervised learning, Semi-supervised learning, Reinforcement Learning, Feature Engineering, Deep Learning (CNN, RNN, LSTM, GRU, Transformers), Autoencoders, Generative Models (GAN, VAE), NLP & Large Language Models, Computer Vision, Model Optimization, Fine-tuning

**Python Libraries**: NumPy, Pandas, Scikit-learn, TensorFlow, Keras, PyTorch, Matplotlib, Seaborn, Plotly, OpenCV, NLTK, SpaCy, Gensim

**Agentic AI & Orchestration**: Multi-Agent Systems, ReAct Architectures, LangChain, LangGraph (StateGraph, dynamic routing), LangSmith, Retrieval-Augmented Generation (RAG), Human-in-the-Loop (HITL)

**MLOps & Observability**: MLflow (tracking, registry), DVC (data versioning), Evidently AI (drift monitoring), Grafana, Prometheus

**Big Data & Distributed Systems**: Hadoop, HDFS, MapReduce, Spark (RDD, DataFrames, SQL, MLlib), Delta Lake, Hive, Kafka, NiFi, Airflow, Sqoop, ETL/ELT, Lakehouse

**Databases**: SQL (MySQL, PostgreSQL, Oracle), NoSQL (MongoDB, Cassandra, Redis, Elasticsearch), Graph databases (Neo4j), Vector databases (FAISS, pgvector)

**Cloud Computing**: AWS (S3, EC2, Lambda, IAM), GCP (Compute Engine, BigQuery), Azure (Blob Storage, Functions), Object storage (MinIO), OpenStack

**Web Development**: HTML5, CSS3, JavaScript, Angular, Bootstrap, Spring Boot, UI/UX (Figma)

**DevOps**: Git, GitHub, GitLab, Docker, CI/CD, Linux, Bash

**Cybersecurity**: Network Security, API Security, RSA, AES, Symmetric/Asymmetric Encryption, Hashing

**IoT & Networks**: TCP/IP, Routing, VLAN, Network Administration, MQTT, Arduino, Raspberry Pi

**BI & Visualization**: Power BI, Tableau, Pentaho

**Project Management**: Agile, Scrum, Kanban, Planning, Monitoring, Risk Management, Documentation, UML, MERISE, GitFlow, Collaboration

## Soft Skills

- Teamwork and effective communication
- Problem solving
- Adaptability and fast learning
- Time management and organization

## Certificates

| | |
|---|---|
| **Blockchain: Understanding Its Uses and Implications LFS170** | The Linux Foundation |
| **Understanding Agentic AI** | agent academy.ai |
| **Open Source and the 5G Transition** | The Linux Foundation |
| **Authentication and Authorization for Web/API LFEL1004** | The Linux Foundation |
| **Digital Awareness** | Cisco Networking Academy |
| **English for IT 1** | Cisco Networking Academy |
| **Introduction to Cybersecurity** | Cisco Networking Academy |
| **Introduction to Data Science** | Cisco Networking Academy |
| **Introduction to Modern AI** | Cisco Networking Academy |
| **PyTorch and Deep Learning for Decision Makers** | The Linux Foundation |

## Languages

**Arabic**: Native language

**English**: Upper-intermediate

**French**: Advanced level