Mohamed Ali Msadek

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Profile

AI Engineer with hands-on experience designing, deploying, and operating Machine and Deep Learning solutions in production environments, with a strong focus on industrial use cases. Experienced across the full MLOps lifecycle, from data collection and model training to deployment and monitoring, using Python, and cloud-native tools. Motivated by applying AI to real-world industrial systems and delivering reliable, scalable solutions.

Education

EURECOM — Master's in Data Science (Dual-Degree) Sophia Antipolis, France
Relevant Courses: *Machine Learning, Deep Learning, Generative AI, Databases, Probability & Statistics* *Sep. 2024 – Mar. 2026*

Sup'Com — Telecommunications Engineering Degree Ariana, Tunisia
Focus: *Computer Systems, Network Architecture (4G/5G), Wireless Communications* *Sep. 2022 – Jun. 2025*

Preparatory Institute for Engineering Studies - Pre-Engineering Studies Monastir, Tunisia
*Ranked among the **top 5%** in the national engineering entrance examination.* *Sep. 2020 – Jun. 2022*

Skills

- **Core:** Python, SQL, Git, Linux, Docker
- **Machine Learning:** CNNs, LSTM, Transformers
- **Frameworks:** TensorFlow, PyTorch, OpenCV
- **Applied AI:** LLM pipelines, Prompt Engineering, RAG
- **Tools:** LangChain, FAISS, FastAPI, REST APIs
- **MLOps (Working Knowledge):** Kubernetes, CI/CD
- **Cloud:** AWS SageMaker, GCP Vertex AI
- **Databases:** PostgreSQL, MySQL
- **Languages:** Arabic (Native), English (C1), French (C1)

Experience

BubbleRAN Biot, France
AI Engineer *Sep. 2025 – Present*
- Designed an AI-driven **automation and anomaly detection pipeline** for private 5G / Open RAN environments.
- Built end-to-end **data ingestion, preprocessing, and inference workflows** over large-scale, multivariate operational KPIs.
- Applied explainable ML models to characterize temporal and cross-layer anomaly patterns in production data.
- Developed agent-based components for **automated analysis and decision support**.
- Deployed and validated services in a **cloud-native, Kubernetes-based platform**, integrating automation into operational workflows.

EURECOM Sophia Antipolis, France
AI Research Intern (LLM Evaluation) *Jun. 2025 – Aug. 2025*
- Designed a **scalable, automated evaluation pipeline** to assess knowledge source reliability using LLMs.
- Implemented **benchmarking and comparison workflows** to systematically evaluate model outputs against human judgments.
- Built reproducible, version-controlled experimentation pipelines emphasizing **evaluation rigor and automation**.
- Engineered the system for **extensibility and CI-friendly experimentation** across models and datasets.
- **GitHub:** github.com/dalimsadek/WD_references_analysis

Groupe SFM Tunis, Tunisia
Data Scientist *Oct. 2023 – Mar. 2024*
- Contributed to an **AI-driven optimization system** for connected HVAC infrastructure in a smart building context.
- Designed **automated data engineering pipelines** to process raw IoT sensor telemetry into analytical features.
- Applied unsupervised learning (K-Means) to identify operational regimes and inefficiencies.
- Developed **visual analytics and reporting tools** to support operational monitoring and optimization decisions.
- Integrated models into **repeatable workflows** supporting deployment and ongoing system analysis.

Innodeep Monaco, France
Data Scientist *Jun. 2023 – Sep. 2023*
- Built an **end-to-end deep learning pipeline** for medical image segmentation and classification.
- Implemented **image preprocessing and augmentation** using OpenCV to improve data quality and model robustness.
- Applied transfer learning techniques to adapt pre-trained models to domain-specific datasets.
- Deployed the solution on **AWS** with a Streamlit-based interface for result visualization and validation.
- Implemented **CI/CD workflows** to automate retraining, validation, and basic model monitoring.

Projects

RAG-Based TinyML Code Automation Tool — Python, LangChain, FAISS, LLMs Mar. 2025 – Jun. 2025
- Automation tool for generating and validating TinyML code for **IoT and embedded devices** using retrieval-augmented workflows.

FMCW Radar-Based Gesture Recognition — CNN, Python, Deep Learning Apr. 2024 – Jun. 2024
- Implemented a sensor-data processing and model training pipeline for gesture recognition using 2D and 3D radar data.

Certifications & Interests

- **Certification:** Project Management Fundamentals
- **Public Speaking & Teaching:** Private tutoring in mathematics and programming; technical presentations during hackathons
- **Interests:** Sports, travel, collaborative and cross-cultural projects