

Sarra Arab

AI Engineer & Full-Stack Developer — Master 2 in Data Science and AI

Location: Algiers, Algeria

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Professional Summary

AI Engineer with hands-on expertise building end-to-end solutions spanning machine learning, computer vision, and full-stack web development. Proven ability to rapidly deliver production-ready applications in competitive hackathon environments (12+ months experience, 4+ awards). Strong foundation in system design, deployment, and collaborative problem-solving. Passionate about practical AI applications with measurable impact.

Education

Engineering Degree in Data Science and Artificial Intelligence

National Higher School of Artificial Intelligence (ENSIA), Algiers

Sept. 2021 – June 2026 (expected)

Main courses: Deep Learning, Computer Vision, NLP, Optimization, Reinforcement Learning

Experience

GeoAI & Remote Sensing Intern – Algerian Space Agency

Algiers, Sept 2024 – Nov. 2024

- Developed end-to-end satellite image processing pipeline for vegetation classification
- Built and deployed ML models (Vision Transformers, ResNet) for land cover classification
- Integrated preprocessing, model inference, and output generation into production workflows
- Collaborated with domain experts to translate requirements into scalable technical solutions

Featured Projects

SPECTRA-Net: AI-Generated Image Detection Platform

Multi-view detection framework combining semantic features (Vision Transformers), frequency-domain analysis, and patch-level anomaly detection. Achieved 85.7% accuracy on challenging benchmarks (Chameleon, WildRF). Includes patch-wise explainability heatmaps for interpretable predictions. [PyTorch, OpenCV, Python]

MILAD: Pregnancy Risk Detection Platform

ML-powered healthcare platform with 89% accuracy (SVM, KNN, Random Forest). Integrated Flutter mobile app connecting users with gynecologists. Delivered complete solution from model training to mobile deployment. [Python, Flask, Flutter, scikit-learn, Firebase]

Ma3ridy — E-Commerce Platform for Algerian Artisans

Marketplace connecting small businesses with customers. Full-stack development with user authentication, product catalog, search/filtering, and real-time updates. [Next.js, Tailwind CSS, Firebase, JavaScript]

STOCKILY — Warehouse Management System

Web-based inventory tracking and stock management platform with real-time dashboard and reporting. [Laravel, PHP, MySQL]

Plant Disease Classification System

ResNet-based transfer learning model for leaf disease identification from images with 82% accuracy. [PyTorch, OpenCV, Transfer Learning]

Power Consumption Forecasting

LSTM and ANN models predicting energy usage across 3 city zones with high accuracy. Time series preprocessing, feature engineering, and model evaluation. [TensorFlow, Pandas, Matplotlib]

Hackathon & Competition Achievements

Algerian Data Cup 2025 — 4th Place Nationally

Solved 5 real-world challenges from companies (YASSIR, BNP Paribas, Biopharm, Grant Thornton, SocialOScope). Built models for ride completion prediction, demand forecasting, threat detection, and sentiment analysis. Demonstrated rapid prototyping across NLP, classification, and time series domains.

SHESEM 2024 — Best Healthcare Solution Award

Built ML platform for pregnancy risk detection (89% accuracy) and integrated Flutter mobile app. Delivered complete production-ready solution in 48 hours.

AGRI-CHALLENGE 2024 — 2nd Place

Trained 7 classification models achieving 79% accuracy with ResNet. Implemented full pipeline from data collection through deployment for agricultural monitoring.

Hack & Train: Remote Sensing & Computer Vision — Mentor

Guided 22 teams through technical problem-solving for geospatial challenges. Demonstrated leadership and mentorship in competitive AI environment.

Skills

Programming: Python, JavaScript, C++, SQL, PHP, Java, Kotlin, Swift, Dart

AI/ML: PyTorch, TensorFlow, Keras, scikit-learn, OpenCV, Vision Transformers

Deep Learning: CNNs, ResNet, Vision Transformers, LSTM, Transformers, GANs, Transfer Learning

Web Development: React.js, Vue.js, Node.js, Next.js, Laravel, Flask

Mobile: Flutter, Kotlin

Dev Tools: Git, Docker, VS Code, Jupyter, Colab, Postman

Databases: Firebase, MongoDB, MySQL, Oracle

Soft Skills: Rapid prototyping, End-to-end solutions, Problem-solving, Teamwork, Communication

Languages

Arabic, French (C2 - TCF 690), English (C1 – IELTS 8.0)