AISSAOUI Ismail

AI & Data Science Engineer

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PROFILE

AI & Data Science Engineer specialized in Transformer models, NLP, recommender systems, optimization, computer vision, and MLOps. Builds and deploys end-to-end AI solutions for HR tech, mobility, retail, and education. Strong expertise in model optimization, ML pipelines, and translating technical outcomes into business value.

SKILLS

Programming: Python, TypeScript, JavaScript, Java, SQL

ML / DL: PyTorch, TensorFlow, Keras, Scikit-learn, Lightning, ONNX

AI Techniques: Transformers (BERT, GPT, RAG), GNN, GAN, XGBoost, LSTM

Optimization: PSO, Genetic Algorithm, ACO, Simulated Annealing, Bayesian Optimization

Web & API: React, Next.js, FastAPI, Node.js, TailwindCSS

Data & MLOps: MLflow, Airflow, Kubeflow, DVC, Pandas, NumPy

Databases: PostgreSQL, MongoDB, MySQL, Neo4j, Cassandra

Cloud & DevOps: Docker, Linux, Git, CI/CD, CUDA, AWS, Grafana

Soft Skills: Technical leadership, Communication, Stakeholder management

PROFESSIONAL EXPERIENCE

Network Engineering Intern   Sep 2024
Algérie Télécom RMC Center — Chlef, Algeria

EDUCATION

National Higher School of Computer Science (ESI-SBA)   2021–2026
Engineering and Master's Degree in Computer Science
Specialization: Artificial Intelligence & Informatics

KEY ACHIEVEMENTS

- Developed custom Transformer models (BERT, GPT, RAG) for real-world multilingual applications.

- Built explainable AI platforms for HR tech and public institutions — reducing bias and improving decision quality.

- Designed a graph-based recommendation system with +24% accuracy improvement (dataset: 60K profiles).

- Delivered complete ML pipelines: data ingestion, validation, training, CI/CD, and monitoring.

- Built real-time vision systems (YOLO, ByteTrack) reducing latency by 32%.

PROJECTS

GNN-based Recruiting System (Career Connect) — 2024–2025
CV/job matching using graph embeddings and relational learning.
Tech: PyTorch Geometric, SBERT, FastAPI, PostgreSQL — Concepts: GNN, Similarity, Embeddings

Aura — Enterprise AI Trading System — 2025
Full-stack automated crypto trading platform powered by hybrid LSTM forecasting and **Reinforcement Learning** (Deep Q-Learning) to optimize entry/exit policies under long-term reward maximization. Includes advanced technical indicators, real-time dashboards, and interactive backtesting.
Tech: TensorFlow, Keras, FastAPI, Next.js, WebSockets — Concepts: LSTM, Reinforcement Learning, Deep Q-Learning, Time-Series Analysis

Advanced NLP Pipeline with Multi-Optimization — 2025
Multilingual moderation optimized with PSO, Genetic Algorithm, and Bayesian Optimization.
Tech: DistilBERT, PyTorch, FastAPI — Concepts: Optimization, Transformers, Classification

Intelligent University Scheduler — 2025
Automatic generation of conflict-free timetables using hybrid heuristics and evolutionary algorithms.
Tech: FastAPI, NumPy, Pandas — Concepts: GA, PSO, ACO, Simulated Annealing

Mini-GPT (Decoder-only) — 2025
Implementation of a compact GPT model with controlled training and sequential text generation.
Tech: PyTorch, CUDA, AdamW, W&B — Concepts: Transformers, Language Modeling

North African Sentiment BERT — 2025
LoRA adaptation of BERT for sentiment analysis in Maghrebi dialect.
Tech: PyTorch, LoRA, MLflow — Concepts: Fine-tuning, Low-Rank Adaptation

Geo-RAG — Map Assistant — 2025
RAG system integrating geospatial data for map-oriented queries.
Tech: ChromaDB, GeoPandas, Streamlit — Concepts: RAG, Spatial Reasoning

Recognizini — Facial Recognition — 2025
Facial recognition with incremental embeddings and an active feedback loop.
Tech: OpenCV, PyTorch, Redis, FastAPI — Concepts: Embeddings, Drift Management

Real-time PPE Detection (YOLOv8) — 2025
Real-time detection of safety equipment (helmet, vest) for compliance monitoring.
Tech: YOLOv8, OpenCV — Concepts: Object Detection, Streaming

Traffic Analytics Suite — 2025
Traffic analytics including tracking, speed estimation, and license plate recognition.
Tech: YOLOv8, ByteTrack, EasyOCR — Concepts: Tracking, OCR, Analytics

Hadj Management System — 2024
End-to-end logistics platform for group management and itineraries.
Tech: React, FastAPI, PostgreSQL — Concepts: Workflow, Synchronization

Hybrid POS & E-Commerce System — 2025
Offline-first POS system integrated with an online store.
Tech: PyQt, SQLite, PostgreSQL — Concepts: Offline/Online Sync, Inventory Management

LANGUAGES

Arabic: Native | French: Fluent | English: Fluent