

AISSAOUI Ismail

AI & Data Science Engineer

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PROFESSIONAL SUMMARY

AI & Data Science Engineer specialized in Transformers, NLP, recommender systems, optimization, computer vision, and MLOps. Designs and deploys end-to-end AI solutions for HR tech, mobility, retail, and education. Skilled in building ML pipelines, optimizing heavy models, and aligning technical output with business objectives.

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 Transformers (BERT, GPT, RAG) for real-world multilingual applications.
- Built explainable AI platforms for HR tech and public institutions, reducing bias and improving decision accuracy.
- Designed graph-based recommendation systems, achieving +24% accuracy on a 60K-profile dataset.

- End-to-end ML pipelines: ingestion, validation, training, CI/CD, observability.
- Real-time vision systems (YOLO, ByteTrack) reducing inference latency by 32%.

PROJECTS

GNN-based Recruitment Platform (Career Connect)	2024–2025
CV/job matching system using graph embeddings and relational learning. <i>Tech:</i> PyTorch Geometric, SBERT, FastAPI, PostgreSQL — <i>Concepts:</i> GNN, Similarity, Embeddings	
Advanced Multi-Optimization NLP Pipeline	2025
Multilingual moderation with PSO, Genetic Algorithm, and Bayesian Optimization. <i>Tech:</i> DistilBERT, PyTorch, FastAPI — <i>Concepts:</i> Optimization, Transformers, Classification	
Intelligent University Scheduler	2025
Conflict-free academic schedule generator using hybrid heuristics and evolutionary algorithms. <i>Tech:</i> FastAPI, NumPy, Pandas — <i>Concepts:</i> GA, PSO, ACO, Simulated Annealing	
Mini-GPT (Decoder-only)	2025
Implementation of a small GPT model with controlled training and sequential generation. <i>Tech:</i> PyTorch, CUDA, AdamW, W&B — <i>Concepts:</i> Transformers, Language Modeling	
North African Sentiment BERT	2025
LoRA adaptation of BERT for Maghrebi dialect sentiment analysis. <i>Tech:</i> PyTorch, LoRA, MLflow — <i>Concepts:</i> Fine-tuning, Low-Rank Adaptation	
Geo-RAG — Map Assistant	2025
RAG system integrating geospatial data for map-related queries. <i>Tech:</i> ChromaDB, GeoPandas, Streamlit — <i>Concepts:</i> RAG, Spatial Reasoning	
Recognizini — Facial Recognition	2025
Incremental embeddings + active feedback facial recognition system. <i>Tech:</i> OpenCV, PyTorch, Redis, FastAPI — <i>Concepts:</i> Embeddings, Drift Management	
PPE Detection Streaming (YOLOv8)	2025
Real-time detection of PPE (helmets, vests) for compliance tracking. <i>Tech:</i> YOLOv8, OpenCV — <i>Concepts:</i> Object Detection, Real-Time Processing	
Traffic Analytics Suite	2025
Traffic analysis including tracking, speed estimation, and license plate OCR. <i>Tech:</i> YOLOv8, ByteTrack, EasyOCR — <i>Concepts:</i> Tracking, OCR, Analytics	
Hadj Management System	2024
End-to-end logistics management platform for groups and itineraries. <i>Tech:</i> React, FastAPI, PostgreSQL — <i>Concepts:</i> Workflow, Synchronization	
Hybrid POS & E-commerce	2025
Offline-first POS system integrated with an online store. <i>Tech:</i> PyQt, SQLite, PostgreSQL — <i>Concepts:</i> Sync offline/online, Inventory Management	

LANGUAGES

Arabic: Native | French: Fluent | English: Fluent