MOSAB NASSIRI

AI Engineer & Data Scientist

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Professional Experience

Data & AI Engineer Intern Feb 2026 – Aug 2026
Expleo Group *Tangier, Morocco*

- Designed an AI-powered application for lightweight wheel optimization, reducing simulation-heavy iterations through large-scale design exploration and Pareto-based solution selection.
- Engineered an end-to-end machine learning and multi-objective optimization pipeline integrating validated predictive models, NSGA-II algorithm, and real-time 3D visualization.
- Delivered an intuitive engineering dashboard with CATIA-integrated workflow automation, supporting rapid design assessment, trade-off analysis, and data-driven decisions.

Technologies: Python · pandas · NumPy · SciPy · scikit-learn · XGBoost · NSGA-II · FastAPI · React · CATIA V5

ML & Computer Vision Engineer Intern Mar 2025 – Aug 2025
MyTeam Solution *Casablanca, Morocco*

- Developed an automated Futsal video analysis system using Computer Vision and Machine Learning for player detection, multi-player tracking, and match analysis.
- Designed a video-processing pipeline to track player movements over time and automatically extract player-level and team-level statistics from match footage.
- Delivered data-driven performance insights for coaches and analysts through automated visual and statistical analysis, significantly reducing the need for manual video review.

Technologies: Python · PyTorch · YOLO · OpenCV · Multi-object tracking · ReID · Camera calibration · FastAPI

Data Analyst Intern Oct 2024 – Dec 2024
MyTeam Solution *Casablanca, Morocco*

- Built an automated pipeline to collect, clean, transform, and validate data from multiple web sources, combining different data formats into reliable and structured datasets ready for analysis and reporting.
- Maintained data quality and consistency to support accurate analysis, reporting, and client deliverables.

Technologies: Python · Web scraping · BeautifulSoup · Selenium · pandas · REST APIs · Docker

Education

State Engineering Degree (Master's Level) in Big Data, Data Science & AI Sep 2021 – Jul 2026
National School of Applied Sciences of Tetouan *Tetouan, Morocco*

Projects

Steam Game Discovery Platform | Live Demo | *Python, FastAPI, MiniLM, pgvector, Plotly*

- Built a 2,000-game recommender combining content embeddings, user feedback and catalog filters. Added a Plotly dashboard for catalog trends and a separate RAG assistant that answers questions and recommends games using catalog data.

AutoScan AI — Vehicle, Logo & License Plate Detection | Live Demo | *YOLOv8, PyTorch, OpenCV, FastAPI*

- Built a vision app that detects vehicles, logos from 24 brands and Moroccan license plates in images and short videos. Added adjustable confidence thresholds and exports for annotated media and detections (CSV/JSON).

Squeezy — Juice & Smoothie Ordering Platform | Live Demo | *Next.js, TypeScript, Neon PostgreSQL, Zod, Playwright*

- Built a full-stack ordering demo with customizable drinks, simulated checkout, pickup scheduling, order tracking and a staff dashboard. Added server-side validation, duplicate-order protection and stock-aware recipe suggestions.

Skills

Technical:

- **Machine Learning & Optimization:** Python, scikit-learn, XGBoost, PyTorch, TensorFlow, Keras, ONNX Runtime, predictive modeling, feature engineering, model evaluation, hyperparameter tuning, recommender systems, NSGA-II
- **Data Science & BI:** pandas, NumPy, SciPy, Matplotlib, Seaborn, Plotly, Power BI, exploratory data analysis (EDA), statistical analysis
- **Generative AI & NLP:** LLMs, RAG, Hugging Face, LangChain, LangGraph, MiniLM, vector search (pgvector, FAISS, Chroma), AI agents
- **Computer Vision:** YOLOv8, OpenCV, object detection and tracking, ReID, camera calibration, video analytics, real-time inference
- **Data Engineering:** SQL, PostgreSQL (Supabase, Neon), MySQL, Apache Airflow, PySpark, Kafka, ETL/ELT, data validation, web scraping
- **Software Engineering:** TypeScript, JavaScript, C, FastAPI, REST APIs, React, Next.js, Vite, Streamlit, Gradio, Docker, Git/GitHub, CI/CD

Soft Skills: Autonomy and Initiative, Analysis and Problem Solving, Teamwork and Project Management

Languages: French: Fluent English: Fluent Arabic: Native Spanish: Beginner