

ESSALHI Oussama

AI & Data Science Engineering Student

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PROFESSIONAL SUMMARY

5th-year AI & Data Science engineering student at EMSI Rabat. Professional internship experience in multi-agent AI and LLM integration, complemented by machine learning, computer vision, Big Data and MLOps projects. Seeking an end-of-studies internship in AI/Data.

TECHNICAL SKILLS

AI / Data : Python, PyTorch, Machine Learning, Generative AI, MLOps, Apache Spark / PySpark, Computer Vision, Deep Learning, Multi-agent Systems, RAG, LLM, NLP, MLflow, DVC, Big Data.

Software engineering : Docker, Linux, Git / GitHub, SQL, REST APIs, React, Node.js / Express.

Also studied : NumPy / Pandas, Scikit-learn, TensorFlow / Keras, Hadoop / MapReduce, Power BI / ETL / Data Warehouse, TypeScript.

PROFESSIONAL EXPERIENCE

REDAL | AI / Data Intern | 1.5 months / 2026

- **HERMES BlueTeam** : Designed a multi-agent AI platform for BlueTeam/SOC analysis of structured events.
- LLM integration, Docker / Linux, MITRE ATT&CK mapping and a Suricata demonstration; functional validation. 9 operational agents ; 17 project tests.

TRAGEM, Rabat | Full Stack Developer Intern | 1 month / 2025

- Mini ERP for customers, orders and deliveries; chatbot, React, Node.js, REST APIs and a relational database.

Trésorerie Générale du Royaume, Rabat | Developer Intern | 1 month / 2024

- Litigation management application for legal files, regulatory deadlines and automatic notifications.

EDUCATION

Engineering degree, Artificial Intelligence & Data Science | 2024-2027

EMSI, Rabat | Currently in fifth year. Expected graduation in 2027.

Specialized Technician, Digital Full Stack Web Development | 2022-2024

Institut NTIC | Diploma obtained

Baccalaureate, Physical Sciences | 2021-2022

Lycée Moulay Ali Chrif | Baccalaureate

SELECTED PROJECTS

BrainSeg AI | Python, PyTorch, Attention U-Net, BraTS 2020

Brain tumor segmentation with a PyTorch Attention U-Net on BraTS 2020. Average Dice : 0.8180. Project evaluation, mean across WT / TC / ET. Reference epoch: 22.

PrimaryTeachingSMA | CrewAI, LangChain, ChromaDB, Claude

A multi-agent assistant for creating teaching exercises and encouraging computational thinking. Reported average cost / run : \$0.038. Project-specific approximation. Model, pricing and methodology need confirmation.

PneumoScan AI | Python, MobileNetV2, Chest X-Ray Pneumonia

Chest X-ray classification with MobileNetV2. An experiment with explicitly documented limitations. Validation accuracy, epoch 8 : 81.25%. Validation subset of only 16 images.

Fraud Detection MLOps | Python, Random Forest, MLflow, DVC

Version data and models, track experiments and use a model registry with MLflow and DVC. Synthetic transactions : 5 000. Educational dataset; 568 fraudulent transactions. No validated predictive metric supplied.

LANGUAGES

Arabic, French, English.