

Oussema Ben Ameer

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EDUCATION

- **The National Engineering School of Sousse - ENISO** Sousse, Tunisia
Applied Computer Science Engineering Degree September 2024 – January 2027 (expected)
 - Final-year engineering student; program covering software engineering, algorithms, artificial intelligence, networks, and industrial computing.
- **Monastir Preparatory Engineering Institute** Monastir, Tunisia
Pre-Engineering Studies : Maths and Physics September 2022 – June 2024
 - Intensive and highly selective two-year scientific program, serving as a preparatory course for the national entrance exams to engineering schools.
 - **Rank:** 420/1800 in the national entrance exam for engineering schools.
 - **Courses:** Analysis and Calculus, Algebra, Physics, Chemistry, Computer Science, Engineering Science and Technology, French, English

WORK EXPERIENCE

- **Talan Tunisie** Tunis, Tunisia
Generative AI Engineering Intern July 2026 – August 2026
 - Architected a **multi-agent system** on **n8n/LangChain** with **Mistral AI**: an **LLM intent classifier** routes requests to 4 specialised agents, exposed via a **webhook REST API** returning **JSON risk/confidence scores**.
 - Built the claim pipeline: PDF extraction into eligibility checks, **graph-based fraud detection** on claim/provider networks, and **LLM-generated** reimbursement explanations designed with **GDPR/AI Act** compliance in mind.
- **Core Techs Solutions** Sousse, Tunisia
Part-Time Machine Learning Engineer September 2025 – May 2026
 - Built an end-to-end insurance **fraud detection** pipeline by consolidating and cleaning fragmented claims data, engineering statistical **risk features**, and applying **unsupervised anomaly detection (Isolation Forest, DBSCAN)** to produce a composite **fraud scoring system** with investigation-ready visualizations surfacing the highest-risk cases.
 - Built an end-to-end document intelligence pipeline integrating **PaddleOCR/LayoutLM** for structured extraction and **Qwen-VL** for visual reasoning, with a custom **C++ inference layer** exposed to the JVM through **Java FFM** for native, high-performance execution.
 - Trained and benchmarked multiple **object detection** architectures (**YOLO, RT-DETR, R-CNN**) in **PyTorch** to assess used book condition, achieving a **25% accuracy improvement** — optimized the best model to **ONNX**, accelerated inference with **TensorRT**, and containerized it with **Docker**; exposed it as a **REST web service** consumed by a **Spring Boot** backend with a **Flutter** mobile frontend.
- *Machine Learning Engineering Intern* June 2025 – August 2025
 - Built the baseline **computer vision** model in **PyTorch** for document-condition classification (folds, tears, degradation), plus the preprocessing and feature extraction pipelines later productionized in the role above.

PROJECTS

- **Lesson — Coding Agent Plugin:** (April 2026)
 - Built an **AI agent** plugin that transforms debugging sessions into structured learning artifacts using event-driven architecture and graph compression.
 - Built an **NLP** pipeline using sentence embeddings and community detection to cluster related concepts from session traces into coherent learning modules.
- **FallahTech RAG — Hybrid Document Search:** (March 2026)
 - Built a hybrid RAG system for due diligence over heterogeneous documents, combining dense semantic and keyword retrieval for accurate query answering.
 - Reduced hallucinations by implementing semantic constraints and confidence thresholds; deployed across both Python (LangChain) and n8n workflows.
- **AI-Powered Writing Assistant Platform:** (December 2025)
 - Developed a full-stack application using Spring Boot and React to generate professional emails and meeting summaries from structured bullet points.
 - Fine-tuned an LLM on business communication data to improve tone alignment and contextual accuracy for email and meeting summary generation.
- **Soil Nutrient Prediction for Sustainable Agriculture:** (May 2025)
 - Built a multi-output regression pipeline using **LightGBM** to simultaneously predict 11 soil nutrients for crop optimization
 - Engineered temporal features from multi-source satellite imagery (**Landsat 8, MODIS, Sentinel-1/2**), constructing a daily historical grid spanning 2017–2019 per field.

SKILLS

- **Programming Languages:** Python, C/C++, Java, JavaScript/TypeScript
- **Machine Learning:** PyTorch, Scikit-Learn, Keras, Hugging Face Transformers
- **Data & Visualization:** pandas, NumPy, Matplotlib, Seaborn, Statsmodels
- **LLMs & Agentic AI:** Mistral AI, LangChain, Multi-Agent Orchestration, RAG, n8n, ChromaDB, PaddleOCR, LayoutLM, Qwen-VL
- **Inference & Deployment:** ONNX, TensorRT, Docker, MLflow, Java FFM
- **Web & Mobile:** Spring Boot, React, Flutter
- **Languages:** Arabic (Native), English (C1), French (B2), German (B1)

VOLUNTEER EXPERIENCE

- **Trainer - JEENISO x JEVE:** April 2026
 - I led a workshop on agentic AI in finance for JEVE, covering what it is, how it works, and how to use it effectively while managing key risks.
- **AI Lead at Electronica Club - ENISO:** September 2025 – Present
 - Led both theoretical and practical workshops covering the fundamentals of Artificial Intelligence and Machine Learning.
- **Member of ENISO Junior Enterprise - JEENISO:** September 2024 – Present
 - Led marketing initiatives including content creation and visual identity design, while contributing to client prospection and outreach efforts for business development.
- **Moderator – School Partnership Program:** May 2025
 - Moderated the launch event of ENISO's new Automotive Software Engineering program, held in the presence of representatives from GIZ, Deggendorf Institute of Technology (DIT), Dräxlmaier, and the German Embassy in Tunis.
 - Led discussions between industry leaders, professors, and school leadership to highlight the program's vision of industry-aligned education and student career development in the automotive tech sector.

CERTIFICATES

Building LLM Applications With Prompt Engineering - NVIDIA

Building RAG Agents with LLMs - NVIDIA

Machine Learning Specialization - DeepLearning.AI, Stanford University

Deep Learning - DeepLearning.AI

Hyperparameter Tuning - DeepLearning.AI

Natural Language Processing - DeepLearning.AI