

Mhamed Garbaa

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Professional Experience

- AI Intern – Explainable AI for Financial Applications**, Talan Tunisia June 2025 – August 2025
- Designed and deployed a **generative AI prototype for credit scoring**, integrating **LLMs (Mistral, Llama 3)** with explainability techniques (XAI) to enhance transparency and trust.
 - Developed a **scalable and cloud-ready pipeline** integrating APIs and interactive dashboards to foster cross-team collaboration.
 - Contributed to research on adapting large models toward more efficient architectures for **cost-effective production deployment**.
- Keywords:** Generative AI, Cloud, APIs, LLMs, Explainability, Financial AI
- AI Intern – Conversational and Multimodal AI**, Talan Tunisia July 2024 – August 2024
- Developed a **multimodal chatbot** using RAG (ChemBERTa + toxicity model), SMfold for 3D protein prediction, and VR for immersive interaction.
 - Applied **generative AI and intelligent search techniques** to provide accurate and contextual responses.
 - Cloud integration and scalability optimization of the system for industrial application.
- Keywords:** Conversational AI, RAG, Intelligent Search, Generative AI, Cloud

Projects

MyBank Audit System [\[GitHub\]](#)

- Developed a **secure banking audit system** with real-time tracking, logging, and RBAC access control.
 - Implemented an **anomaly detection engine** to automatically identify suspicious operations.
 - Integrated a **conversational LLM assistant (Llama3)** for account supervision and contextual analysis.
 - Docker containerization for **cloud-ready** deployment.
- Keywords:** Django, REST APIs, LLM, Security, Docker, SQLite

Distraction Detection Agent [\[GitHub\]](#)

- Developed a **real-time vision system** monitoring driver's gaze and phone usage to detect distractions.
 - Emphasized a **lightweight deployment** for real-time operation.
- Keywords:** Computer Vision, Real-Time, Lightweight Models, Driver Monitoring

Industrial ECG Analysis System [ECG App](#)

- Developed a **real medical use case** with machine learning: ECG signal preprocessing, feature extraction, and patient classification.
 - Optimized model pipelines for **deployment and interpretability**.
- Keywords:** ECG, Medical AI, Signal Processing, Deployment

Education

- ENET'Com**, National School of Electronics and Telecommunications of Sfax 2023 – Present
- Keywords:** Signal Processing, Network Security, C, Java, Cloud Computing, DevOps, Spring Boot, Matlab, MySQL
- IPEIN**, Preparatory Institute for Engineering Studies of Nabeul 2022 – 2023
- Keywords:** Linear Algebra, Python
- ESSTHS**, School of Sciences and Technology of Hammam Sousse 2021 – 2022
- Keywords:** Advanced Mathematical Problem Solving

Technical Skills

- Programming Languages:** Python, Java, C, PHP, Matlab, HTML/CSS/JS, SQL
- AI/ML/DL:** Generative AI, Conversational AI, Intelligent Search, LLMs (Mistral, Llama 3, ESM-2), Explainability (XAI), AI Agents, RAG, LangChain, CrewAI
- Cybersecurity:** Intrusion Detection, Anomaly Detection, Network Security
- Cloud & DevOps:** AWS, OpenStack, Docker, APIs, Containerization, Virtualization, DevOps
- Computer Vision:** OpenCV, Mediapipe, YOLO, SMfold, 3D Protein Prediction
- Data Engineering:** ETL Pipelines, Data Integration, Big Data
- Other:** Signal Processing, Scientific Writing, VR Environments

Certifications

- AI Agents in LangGraph – DeepLearning.ai
- MLOps Fundamentals – DataCamp
- Machine Learning in Production – DeepLearning.ai
- OCI Generative AI Certification – Oracle
- Microsoft AI Fundamentals
- Microsoft Azure Fundamentals
- Supervised Learning with scikit-learn – DataCamp
- Containerization and Virtualization – DataCamp

Competitions

- 3rd Place – NASA Space Apps Challenge
- 3rd Place – TomorrowLab (TPL / DAAD)
- Finalist – Process Optimization (4C ENET'Com)

Volunteer Involvement

- President** – TUNSA Club
- Vice President Training and Development** – JCI Korba
- Skills:** Leadership, Strategic Planning, Team Collaboration

Languages

Arabic: Native Language **English:** Professional **French:** Professional **German:** Elementary