ACHRAF LACHGAR

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Junior AI Engineer | Generative AI & RAG Systems

WORK EXPERIENCE

Freelance   **01/2021 - Present**
Full Stack Developer

• Designed and developed dynamic web applications using the **MERN stack** (MongoDB, Express.js, React.js, Node.js).
• Created modern, responsive user interfaces utilizing **Tailwind CSS**, **Bootstrap**, and **Sass**.
• Developed and integrated secure **REST APIs** and managed authentication solutions like **JWT** and **OAuth**.
• Managed database architectures and optimized query performance using **Mongoose** and **PostgreSQL**.
• Deployed and maintained production applications on cloud platforms including **Vercel**, **Netlify**, and **Heroku**.
• Optimized website performance and **SEO** (Core Web Vitals) to improve search rankings and user retention.
• Conceived and maintained custom **WordPress** sites, including theme and plugin development.
• Developed interactive frontend functionality with **JavaScript** and backend logic in **PHP**.
• Integrated AI-powered features using LLM APIs (chatbots, document analysis, automation tools).
• Designed backend services for AI inference and data processing.

EDUCATION

AI Developer Professional Certificate
IBM   01/2025 - 01/2026

• Completed an intensive 10-course program focusing on the Full Stack AI Development lifecycle.
• Developed core competencies in **Generative AI**, **Prompt Engineering**, and building AI-powered applications.
• Gained hands-on experience in **Python for Data Science**, **FastAPI/Flask**, and creating specialized AI chatbots.

Full Stack Developer
YouCode School   01/2019 - 01/2021

• Completed rigorous project-based training in modern web technologies and software architecture.
• Specialized in the MERN stack and professional agile development methodologies.

Bachelor of Science in Physics & Chemistry
Faculté Polydisciplinaire, Safi   01/2015 - 01/2018

• Completed foundational coursework in physical sciences and mathematical analysis.

High School Diploma in Physics & Chemistry
Lycée Kachkat   01/2015

• Focused on advanced mathematics, physical sciences, and chemical engineering foundations.

PROJECTS

SheetBrain-AI   11/2025 - 01/2026
Personal Project / GSuite Automation
• Engineered an AI-powered formula auditing tool using **TypeScript** and **Google Apps Script** to automate spreadsheet error detection.

• Designed real-time recommendation engines that provide policy compliance checks and intelligent formula insights for enterprise users.

• Created a seamless integration between cloud spreadsheets and LLM APIs to optimize data workflows and business logic auditing.

Legal-FAQ-Assistant   10/2025 - 11/2025

Personal Project

• Fine-tuned **Mistral 7B** using **QLoRA**, resulting in a **20% increase in domain-specific accuracy** compared to base models while maintaining high precision for legal Q&A.

• Architected a secure, production-ready pipeline featuring **AES-256 encryption** and containerized deployment via **Kubernetes**.

• Optimized model inference performance, ensuring accurate legal Q&A responses while maintaining data privacy compliance.

Multimodal-AI / RAG-App   07/2025 - 09/2025

Personal Project

• Developed a full-stack **Retrieval-Augmented Generation (RAG)** application utilizing **FastAPI** and **React.js**.

• Implemented a **hybrid search pipeline** using **Pinecone** and **ChromaDB**, reducing retrieval latency by **15%** for multi-format document queries through optimized metadata filtering.

• Integrated **Google Gemini API** to enable long-term memory and contextual reasoning over uploaded multi-format documents.

SKILLS

- **AI & Generative AI:** Agentic AI & Tool-Based Workflows, Large Language Models (Gemini / LLaMA / Mistral / Gemma), LLM Fine-Tuning (LoRA / QLoRA, PEFT), Prompt Engineering & Structured Outputs, Retrieval-Augmented Generation (RAG) Architectures

- **Backend & AI Systems:** AI Inference Pipelines, FastAPI (Asynchronous), File Processing (PDF / DOCX / TXT), Flask, Python, RESTful API Design

- **Vector & Semantic Search Infrastructure:** Embeddings & Similarity Search, Hybrid Search (Text + Multimodal), Metadata Filtering & Retrieval Optimization, Vector Databases: (Pinecone / ChromaDB / FAISS)

- **Frontend & Full Stack:** AI-Powered UI Integration, Next.js, React.js, Tailwind CSS, TypeScript

- **Model Training & MLOps:** Hugging Face Transformers, Model Optimization & Deployment, Training & Evaluation Pipelines

- **Databases:** PostgreSQL, SQLAlchemy ORM, SQLite

- **DevOps & Deployment:** CI/CD Pipelines, Docker, Firebase, Git & GitHub, Render, Vercel

- **Soft Skills:** Cross-functional Collaboration, Problem Solving, Technical Communication

- **Languages:** Arabic (Native), English (Full Professional Proficiency), French (Limited Working Proficiency)