

# Lyes HADJAR

lyes.hadjar.04@gmail.com | +213 799 821 907 | linkedin.com/in/lyes-hadjar | github.com/LyesHADJAR | lyeshadjar.dev

## PROFESSIONAL SUMMARY

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AI Engineering student at ENSIA with 5+ production internships building RAG pipelines, Arabic NLP systems, and full-stack financial applications in C#, .NET, Python, FastAPI, LangChain, and Next.js. 4x hackathon top-3 finisher. Seeking junior backend or AI junior engineer roles.

## EDUCATION

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**ENSIA (École Nationale Supérieure d'Intelligence Artificielle)**  
*Bachelor of Science in Artificial Intelligence Engineering*

Sidi Abdellah, Algeria  
*Expected June 2027*

**Si El Hewwas High School**  
*Mathematics Baccalaureate, with Honors*

Lakhdaria, Algeria  
*Graduated June 2022*

## RESEARCH

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**Algerian Dialect Diacritization — Dataset & Modeling**  
*Research Team Leader*

ENSIA · Collaboration with Portland State University  
*Jan 2026 – Present*

- Co-leading construction of the first Algerian dialect diacritization corpus (6,086 sentences, 95.2% character-level IAA) via a 3-phase human annotation pipeline over LLM pre-annotation; coordinating *[est.]* 4 annotators across all phases.
- Paper in preparation — benchmarking BiLSTM-CRF, AraBERT, MARBERT, and DziriBERT under MSA/dialect transfer-learning strategies on the novel corpus.

## PROFESSIONAL EXPERIENCE

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**Command Strategy Advisory**  
*AI/Software Engineer Intern*

Paris, Île-de-France, France · Remote  
*Oct 2025 – Present*

- Engineered client-facing software tools in C# (.NET), translating requirements from financial consultants into production-deployable REST API solutions across *[est.]* 3+ active client engagements.
- Reduced manual reporting turnaround by *[est.]* ~40% by automating data workflows with reusable .NET backend modules, improving consultant decision-making pipelines.

**Ministry of Vocational Training and Education**  
*AI/Software Engineer Intern*

Ben Aknoun, Algiers, Algeria · Hybrid  
*Sep 2025 – Oct 2025*

- Built an NLP-powered recommendation engine for a national training orientation platform using a Rust backend, matching learner profiles against *[est.]* 200+ training programs via semantic similarity and constraint filtering.
- Integrated explainability features and career-path mapping into the recommendation pipeline, surfacing clear training-to-career pathways for end users across *[est.]* 5+ professional domains.

**Holding Algeria Chemical Specialities (ACS – ENAP)**  
*AI/Software Engineer Intern*

Lakhdaria, Bouira, Algeria · Hybrid  
*Jul 2025 – Sep 2025*

- Delivered a full-stack company website in Next.js 14 and TypeScript with SSR and SEO optimization, achieving a Lighthouse performance score of *[est.]* 90+.
- Integrated Payload CMS as a headless backend, enabling non-technical staff to manage content independently and reducing update turnaround from days to under 15 minutes.
- Built a RAG-powered customer support chatbot using LangChain, ChromaDB, and OpenAI embeddings, indexing *[est.]* 500+ internal knowledge documents and deflecting *[est.]* ~30% of repetitive support queries.

**K2A Auto**  
*Software Engineer & Design Team Lead (Contract)*

Remote  
*Jul 2025 – Nov 2025*

- Architected and shipped an automotive SaaS product using NextJS.
- Established a Figma design system covering *[est.]* 40+ UI components, reducing design-to-development handoff time and ensuring cross-platform visual consistency.

**Ministry of Higher Education and Scientific Research**  
*AI/Software Engineer Intern*

Ben Aknoun, Algiers, Algeria · Hybrid  
*Jun 2025 – Nov 2025*

- Built an end-to-end Arabic-language QA system using transformer models (AraBERT/CAMeL Tools) and FAISS vector search, enabling semantic retrieval over *[est.]* 1,200+ official government documents.
- Designed a FastAPI backend and responsive React frontend delivering document-grounded answers to Arabic NLP queries with *[est.]* <2s average response latency across *[est.]* 5+ integrated government data sources.

**Thynk Tech DZ**  
*Artificial Intelligence Intern*

Algiers, Algeria  
*Jun 2024 – Aug 2024*

- Developed and deployed an AI classification pipeline in Python using scikit-learn and pandas, processing *[est.]* 10,000+ records and cutting manual review time by *[est.]* ~30%.
- Shipped a production ML solution within a *[est.]* 6-week sprint cycle, collaborating in a cross-functional team of *[est.]* 5 engineers and integrating the model into an existing business-critical application.

## TECHNICAL PROJECTS

**RAG System for Ministry of Higher Education**  
*Lead Developer / System Designer*

AI Development | [github.com/LyesHADJAR](https://github.com/LyesHADJAR)  
*2025*

- Architected a production RAG pipeline using LangChain, FAISS vector database, and Hugging Face sentence-transformer embeddings, indexing *[est.]* 1,200+ documents and reducing retrieval latency by *[est.]* ~40%.
- Implemented advanced chunking strategies and an Arabic NLP query preprocessing layer, achieving *[est.]* >85% answer relevance on held-out government document test queries.

**Algerian Legal GraphRAG Assistant**  
*Lead Developer — Ranked #1 in academic cohort, 18.3/20*

NLP Course Project, ENSIA | [github.com/LyesHADJAR](https://github.com/LyesHADJAR)  
*2026*

- Architected a bilingual (French/Arabic) GraphRAG legal assistant using FastAPI, FAISS, Sentence Transformers, and a NetworkX knowledge graph, implementing hybrid retrieval (vector similarity + BM25 + graph traversal) over the Algerian legal corpus.

- Integrated Groq-hosted Llama 3.3 70B as the generation layer with entity-relationship graph context, delivering RTL-aware Arabic responses via a React/TypeScript/TailwindCSS frontend.

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**Encrypted Chat Application**  
*Developer*

Secure Messaging | [github.com/LyesHADJAR](https://github.com/LyesHADJAR)  
2025

- Built a cross-platform end-to-end encrypted messaging app in Flutter/Dart using AES-256 and RSA key exchange, ensuring zero plaintext data persisted at rest or in transit.
- Passed *[est.]* 100% of security test cases against a standard E2EE verification checklist, meeting OWASP Mobile Top 10 guidelines.

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**Khfffa**  
*Development Lead*

Freight Transportation Solution | [github.com/LyesHADJAR](https://github.com/LyesHADJAR)  
2025

- Delivered a Flutter/Dart freight logistics mobile app from Figma wireframes to App Store-ready build in *[est.]* 8 weeks, addressing last-mile delivery fragmentation across *[est.]* 3 Algerian wilayas.

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**Algiers Airport Data Mining**  
*Lead Analyst*

Data Analysis Project | [github.com/LyesHADJAR](https://github.com/LyesHADJAR)  
2025

- Applied K-means clustering, association rule mining, and PCA using Pandas and scikit-learn to *[est.]* 50,000+ passenger records, surfacing 3 actionable passenger experience improvements.

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**Agriculture Problem Solver**  
*Lead Developer / System Designer*

Optimization System | [github.com/LyesHADJAR](https://github.com/LyesHADJAR)  
2024

- Designed a constraint-based agricultural land allocation optimizer in Python using A\* and local search, reducing manual planning time by *[est.]* ~50% across *[est.]* 20+ test farm scenarios.

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**UrGymBro**  
*Full-stack Developer*

E-commerce Platform | [github.com/LyesHADJAR](https://github.com/LyesHADJAR)  
2023

- Built a full-stack fitness equipment e-commerce platform in PHP/MySQL with HTML/CSS/JS frontend and a Figma-designed UI, supporting end-to-end catalog, cart, and checkout flows for *[est.]* 50+ product SKUs.

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## TECHNICAL SKILLS

### Programming Languages & Frameworks

Python, C# (.NET), Dart (Flutter), HTML/CSS, JavaScript/TypeScript (React, Next.js)

### Backend & DevOps

C# (.NET), Rust, FastAPI, Flask, REST APIs, PostgreSQL, MongoDB, Docker, Git, GitHub Actions, CI/CD

### AI & Machine Learning

LangChain, LlamaIndex, GraphRAG, RAG Systems, Arabic NLP, NLP, scikit-learn, TensorFlow, Hugging Face, Sentence Transformers, Vector Databases (FAISS, ChromaDB, Qdrant), NetworkX

### Design

UI/UX Design, Figma, Adobe Illustrator, Prototyping

## LEADERSHIP & VOLUNTEERING

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### ENSIA Tech Community

Sidi Abdellah, Algeria  
*Secretary General | Event Manager | Community Manager | Design Manager | AI Cell Manager Feb 2023*  
– Present

- **AI Cell Manager (Jul 2025 – Present):** Designed and delivered [est.] 10+ ML/DL workshops for [est.] 30+ club members; brokered collaboration with [est.] an industry partner to align projects with real-world AI use cases.
- **Secretary General (Aug 2024 – Jul 2025):** Directed strategic operations for the largest technical club at ENSIA, overseeing [est.] 400+ members and streamlining workflows that reduced administrative overhead by [est.] ~20%.
- **ETCversary Event Manager (Dec 2024 – Feb 2025):** Organized the club's largest anniversary event, coordinating a cross-functional team of [est.] 15 and securing [est.] 2 sponsors to deliver the event on time and within budget.
- **LinkedIn Community Manager (Sep 2024 – Jul 2025):** Grew the club's LinkedIn following by [est.] ~200% through a structured weekly content calendar covering AI/ML trends and student projects.
- **Design Manager (Feb 2023 – Aug 2024):** Established brand guidelines and managed a design team of [est.] 5 across [est.] 10+ club projects, reducing design-cycle time by standardizing reusable Figma component libraries.

## ACHIEVEMENTS

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- **Hackathon Record:** 2nd Place InnovTech by Djezzy | 2nd Place Junction X Algiers | 3rd Place DevCamp | 2nd Place MobAI Hackathon | 3rd Place AIFEST'23 — 4 top-3 finishes across 5 national competitions.

## LANGUAGES

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Arabic (Native) | English (Professional) | French (Intermediate) | Kabyle (Native)