

# Amroug Nisrine

+212 663 374 378 | [nisrineamroug2005prof@gmail.com](mailto:nisrineamroug2005prof@gmail.com) | [linkedin.com/in/nisrineamroug](https://linkedin.com/in/nisrineamroug) | [github.com/nisrineamroug](https://github.com/nisrineamroug)  
portfolio : [nisrineamroug.dev](https://nisrineamroug.dev)

## EDUCATION

<b>Moroccan School of Engineering Sciences (EMSI)</b> <i>Engineering Degree in AI &amp; Data Science (5-year program, 4th year)</i>	Casablanca, Morocco Oct 2022 – May 2027
<b>IMANE EL WIFAK HIGH SCHOOL</b> <i>- Baccalaureate in Physical Sciences.</i>	Casablanca, Morocco Oct 2021 – June 2022

## EXPERIENCE

<b>Project Manager – Workshop Collaboration (AI &amp; Software Development)</b> <i>Intellcap</i>	July 2025 – Present Rabat, Morocco
<ul style="list-style-type: none"><li>Contributing to the development of a large-scale ERP solution built on a microservices architecture.</li><li>Leading the design and implementation of one of the core services, including a data warehouse silver layer following the medallion architecture.</li><li>Worked on frontend integration with Next.js and backend services using Spring Boot, Flask, Docker, Redis, MongoDB, PostgreSQL, and RESTful APIs.</li><li>Coordinated delivery with Jira for project management, and GitHub for version control and collaboration, ensuring scalable, reliable, and extensible systems.</li></ul>	
<b>Software Engineering Intern</b> <i>Diravenir</i>	July 2025 – Sep 2025 Casablanca, Morocco
<ul style="list-style-type: none"><li>Developed a full-stack platform for academic guidance and study abroad opportunities.</li><li>Built the frontend with React.js, implemented the backend with Python (Django), and integrated Redis for caching and PostgreSQL for database management.</li></ul>	
<b>Web Development Intern</b> <i>Royal Air Maroc</i>	June 2023 – July 2023 Casablanca, Morocco
<ul style="list-style-type: none"><li>Developed a web application for managing and optimizing customer loyalty programs.</li><li>I've gained experience in frontend integration and customer loyalty optimization systems.</li><li>Delivered a detailed report for the company documenting the solution and recommendations.</li></ul>	

## PROJECTS

<b>LexAssistant: Production-Grade RAG Assistant for moroccan labor code</b> <i>  LangChain, ChromaDB, Redis, Docker, FastAPI, Groq,</i>	2026
<ul style="list-style-type: none"><li>Engineered <b>production RAG</b> achieving <b>96% recall</b> via hybrid search (BM25+vector, weights 0.4/0.6); reduced API costs <b>60%</b> with Redis semantic caching (68% hit rate) and latency <b>40%</b> with async streaming.</li><li>Implemented <b>LLMOps evaluation</b> using RAGAS with synthetic data, achieving 0.89 faithfulness through systematic A/B testing of chunk sizes (500→1000) and retrieval parameters (k=3→10).</li><li>Architected <b>Docker microservices</b> (FastAPI, Redis-Stack, ChromaDB) with rate limiting (6 req/min), token auth, and LangSmith observability; deployed Next.js frontend with session management.</li></ul>	
<b>Intelligent Water Resource Management</b>   <i>Python, Flask, Pandas, scikit-learn, SQLite</i>	2025
<ul style="list-style-type: none"><li>Built <b>predictive models</b> (89% accuracy) forecasting water demand and detecting distribution inefficiencies (15% waste reduction) using time series analysis.</li><li>Designed <b>OOP architecture</b> with RESTful API (Flask, JWT), optimized pipelines scalable to high-volume datasets with Pandas vectorization (60% faster), achieving 92% test coverage.</li></ul>	

## TECHNICAL SKILLS

**Languages:** Java, Python, C/C++, SQL (Postgres), JavaScript, HTML/CSS, C#  
**Frameworks:** React, Next.js, Node.js, Flask, FastAPI, Django, Spring Boot, ASP.NET Core  
**Developer Tools & Infrastructure:** Git, Docker, Google Cloud Platform, VS Code, Visual Studio, IntelliJ, Jira, Redis, ChromaDB, Postman  
**Libraries:** Pandas, NumPy, Matplotlib, PyPDFLoader, RankBM25  
**AI/ML:** RAG, Prompt Engineering, Vector Embeddings (OpenAI/HuggingFace), LangChain, LangSmith, Ollama, RAGAS, Hybrid Search, Cross-Encoders, FlashRank, BM25, LLM-as-Judge  
**Soft Skills:** Fast learner, Team collaboration, Problem-solving, Adaptability