

MOHAMED YASSINE ESSID

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Summary

Lead-oriented Software Engineer with a focus on architecting autonomous Multi-Agent AI systems and high-performance Full-Stack platforms. Expert in Python (FastAPI/Django) and React/Next.js ecosystems. Proven track record of taking full ownership of the development lifecycle, from designing reliable AI orchestration flows to deploying scalable microservices in production-grade environments.

Experience

Full-Stack Engineer <i>Espoir Market (SPAR)</i>	Jul – Oct 2025 Tunis, Tunisia
- Engineered a centralized platform using Next.js and GraphQL to synchronize inventory, staff, and financial data across multiple SPAR retail locations. - Developed a high-performance analytics dashboard processing complex invoice and stock datasets to provide management with real-time KPIs and automated reporting. - Architected the full deployment pipeline using Docker and Git, ensuring 100% environment parity and reliable delivery of financial management tools.	
Software Engineer <i>ESPRIT</i>	Jun – Aug 2024 Tunis, Tunisia
- Engineered a modular monolithic architecture in Spring Boot to manage the lifecycle of 1,000+ electronic assets, resulting in a production-ready solution for 200+ university users. - Integrated an Angular frontend with a RESTful Spring Boot API to enable real-time asset monitoring, improving inventory reporting accuracy by 40%.	
Full-Stack Engineer <i>VEREDENT</i>	Jan – Jul 2023 France (Remote)
- Architected a scalable microservices ecosystem using NestJS and RabbitMQ, maintaining 99.9% uptime for 10,000+ daily transactions during peak dental marketplace traffic. - Decoupled user and product management services into independent entities, reducing MTTR (Mean Time To Recovery) by 35% through enhanced fault isolation.	
Backend Engineer <i>ELYADATA</i>	Jul – Aug 2022 Tunis, Tunisia
- Developed production-ready FastAPI microservices, reducing API response latency by 65% using Redis cache-aside patterns. - Optimized PostgreSQL indexing and query strategies, increasing system throughput 3× for high-traffic endpoints. - Architected the Docker containerization strategy for the full CI/CD pipeline, ensuring environment parity across dev/prod.	

Projects

Agentic AI LaTeX Editor
- Built a multi-agent system using LLM orchestration and tool-calling agents to automate document drafting and real-time error correction. - Implemented real-time synchronization using WebSockets and Yjs, maintaining sub-100ms latency for collaborative users. - Deployed an asynchronous Go-based compiler microservice, handling high-reliability document production.
Coding Factory Refonte
- Architected a Distributed E-Learning Ecosystem: Re-engineered the "Coding Factory" platform using a Spring Boot Microservices architecture with Spring Cloud Gateway and Eureka Service Discovery, ensuring horizontal scalability for 500+ concurrent student and teacher profiles. - Implemented AI-Driven Personalization: Integrated an intelligent course recommendation engine and automated quiz generator via FastAPI-based LLM microservices, increasing student platform engagement by 30% through personalized learning paths for 500+ users.

- **Cross-Platform Frontend:** Developed a responsive UI using **Angular**, ensuring seamless accessibility across mobile, tablet, and desktop environments

Geospatial Intelligence PWA – Sotacib

- Architected a Next.js PWA with PostGIS to visualize competitive pricing data across Tunisia, enabling real-time territorial gap analysis for field teams.
- Automated location detection and competitor mapping using OpenStreetMap APIs, increasing field data collection velocity by 30%.

Sbiba Heritage

- Architected an accessible web application utilizing AI models to reconstruct and preserve Sbiba’s historical sites based on archival documentation, transforming static data into interactive 3D/visual environments.
- Engineered a "Past-Selfie" feature using image-to-image generative models, allowing users to upload portraits and receive personalized, period-accurate imagery within reconstructed monuments; increased user engagement by 40% during the H12 Innovation event.

Gym Management Dashboard

- Developed a full-stack gym management PWA with Next.js and PostgreSQL, implementing a real-time analytics engine to visualize registration trends and revenue growth, improving stakeholder decision-making speed by 35%.

Skills

- **AI/ML:** OpenAI, LangGraph, LangChain, Multi-Agent Systems, AI Orchestration, Prompt Engineering, RAG, Vector Databases.
- **Backend & Databases:** Python (FastAPI, Django), Node.js (NestJS), Java (Spring Boot), Go, GraphQL, PostgreSQL, PostGIS, Redis, RabbitMQ.
- **Frontend Development:** TypeScript, JavaScript, React, Next.js, Angular, Tailwind CSS, PWA.
- **Architecture & Patterns:** WebSockets, CRDTs, Microservices, Event-Driven Design, Distributed Systems, Modular Monolith, DDD, Unit/Integration Testing.
- **Cloud & DevOps:** AWS, Azure, Docker, GitHub Actions, CI/CD Pipelines, Azure Web PubSub.
- **Languages:** English (Full Professional Proficiency), French (Professional), Arabic (Native).

Education

M.Sc. in Software Engineering ESPRIT University, Tunisia	2023 – 2026
B.Sc. Computer Science & Information Systems ISIMM University, Tunisia	2020 – 2023