IMAD MOTANABBI

AI & Full-Stack Engineer

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PROFILE

Computer engineer (ENSAT) with 5 years of experience designing and shipping generative AI systems (LLM agents, multilingual RAG, natural-language data querying, OCR) and the web and mobile applications built on them, from architecture to deployment. Focused on reliable, controllable systems: deterministic validation, server-side access control, observability.

SKILLS

Generative AI	LangGraph, LangChain, multilingual RAG, hybrid search (BGE-M3), Qdrant, Transformers, MCP / A2A, vLLM, Groq, Langfuse
Vision & OCR	PaddleOCR / PaddleX, YOLO (ONNX Runtime), OpenCV, MRZ reading (ICAO 9303)
Back end	Python (FastAPI), Node.js / Express (TypeScript, Prisma), PHP (Laravel), Java (Spring Boot); REST APIs, JWT, OIDC (Keycloak), RBAC / ABAC
Front end & mobile	React, TypeScript, Vite, TanStack Query, Tailwind CSS, Angular; React Native (Expo)
Data & CMS	PostgreSQL, MySQL, Redis, Kafka, Prefect, Superset; WordPress, WooCommerce, Strapi, XWiki
DevOps & cloud	Docker, Traefik, Nginx, CI/CD (GitLab, Bitbucket), AWS, Scaleway, Prometheus, Grafana, Linux
Ways of working	Scrum (Jira), Git flow, code review, documentation and knowledge transfer

EXPERIENCE

DIGITAL PLACE — **Software Development Engineer** · digitalplace.ma — Mar 2021 – Present

AI and software engineering agency in Tangier, serving public, international and private clients in Morocco and France.

AI & full-stack assignments — 2024 – Present

Text-to-SQL agent system for port data — Tanger Med Port Authority (TMPA) — 2026

- End-to-end design and build of a multi-agent system (LangGraph) that turns business questions asked in French into governed SQL queries, then returns the answer with charts.
- Reliability: deterministic SQL validation, confidence label with a corrective loop, verified KPIs; **no wrong figure is returned without a warning**.
- Governance: semantic layer (OpenMetadata) and RBAC / ABAC enforced server-side, so **the LLM never decides authorisation**; observability with Langfuse, Prometheus / Grafana.

Stack: Python, FastAPI, LangGraph, Qwen3-32B (Groq), vLLM, sqlglot, PostgreSQL, OpenMetadata, Keycloak, React, Docker

AI talent pool: CV search and matching — TMPA — 2026

- HR platform that turns a heterogeneous stream of CVs into a talent pool searchable in natural language: architecture and end-to-end development.
- Ingestion pipeline (extraction, LLM structuring, per-section embeddings) and hybrid dense + sparse search with strict lexical filters; two-way matching between job descriptions and candidates.

Stack: Python, FastAPI, React, TypeScript, BGE-M3, Qdrant, vLLM, PaddleOCR, Docker

OCR Identité: identity document data extraction — identity-ocr.digitalplace.ma — 2026

- Full-stack solution running **100% on-premise** (CPU, no cloud API) for 4 Moroccan documents: national ID card, vehicle registration, driving licence, passport; taken to production.
- Multi-stage vision pipeline: two-stage YOLO detection, deskewing, bilingual Latin / Arabic OCR, MRZ reading; every result audited by a deterministic rules engine, without an LLM.
- React operator console with per-field visualisation, asynchronous job queue, logs free of personal data.

Stack: Python, FastAPI, PaddleOCR / PaddleX, YOLO (ONNX Runtime), OpenCV, React 19, TypeScript, Docker, Traefik

Digital platform for an insurance broker — Near Assurances · nearassurances.ma — 2026

- Full-stack design and development: public website with a quote simulator, internal CRM back office with role-based access, REST API.
- Pricing engine (FMSAR framework), HubSpot sync, PDF quotes; JWT, reCAPTCHA v3, rate limiting; Bitbucket CI/CD to staging and production.

Stack: Node.js / Express, TypeScript, Prisma, PostgreSQL, Redis, React, Vite, Docker, Traefik

Agentic AI platform and RAG chatbots — TMPA · IGA 2025 – 2026

- TMPA: reusable agentic foundation (LangGraph) powering **3 chatbots in 5 languages** (Arabic, French, English, Spanish, Italian), unified REST API, MCP / A2A connectors to internal systems.
- Multilingual RAG: document ingestion, Qdrant schemas, retrieval and evaluation strategies, Groq inference with fallback; React admin interface; training for TMPA teams.
- Institut Supérieur du Génie Appliqué (IGA): public chatbot embedded in the iga.ac.ma WordPress website, with a conversational mode and a guided mode driven by decision trees generated from XWiki.

Stack: Python, FastAPI, LangGraph, LangChain, Sentence-Transformers, Qdrant, XWiki, React, TypeScript, GitLab CI, Docker

Veille+: AI-driven job-market intelligence — ANAPEC · ILO · MIPEEC · veilleplus.anapec.ma 2024 – 2025

- Requirements gathering with the partner institutions, specifications and microservice architecture.
- Node.js / Express back end, React + TypeScript front end, FastAPI inference services (CamemBERT, Sentence-Transformers) for semantic analysis of jobs and skills.
- Prefect data flows (scraping, cleaning, ESCO normalisation), Apache Superset dashboards; Nginx hardening following OWASP practices.

Stack: Node.js, React, TypeScript, Python, FastAPI, MySQL, PostgreSQL, Redis, Prefect, Superset, Docker

DevSecOps, web & mobile assignments 2021 – 2023

- Web platforms built and taken to production for **UNDP** (multilingual mentoring and e-learning, PWA), **Mohammed VI University Hospital, Tangier** (online recruitment, chutanger.ma), **ANAPEC** (job and skills monitoring), IT Learning Campus (student administration) and Minded (e-learning, Ministry of National Education).
- SBOOST professional social network, ARGUMO WooCommerce e-commerce portal (argumo.co), WhatsApp-based micro-learning system (Spring Boot, Kafka).
- Mobile with React Native / Expo: Emploi Maroc SBOOST app published on the App Store, Google Play and AppGallery; IGA Mobile updates (back office and API); banking voice assistant in French and Darija.
- Cloud, migrations and audits: SBOOST migration to AWS (architecture, IAM, cost control), migration of two STG Telematics platforms (applications, Redis, MySQL / PostgreSQL), Minded moved to a LAMP stack; technical audits (STG Telematics, ADI Nouvelle-Aquitaine); SSL migration script for **AP-HP** (Paris public hospitals).

Stack: React, React Native (Expo), Node.js, PHP / Laravel, Angular, WordPress / WooCommerce, Spring Boot, MySQL, PostgreSQL, AWS, Docker, Bitbucket

MED NOUR CONSULTING — **Software Development Intern** Jul – Sep 2020

- Web application for citizens to report environmental violations, built for the OPEMH association in Tangier: design, MVC development, deployment.

Stack: Laravel, MySQL, Bootstrap, jQuery, Heroku

EDUCATION

Computer Engineering Degree (Diplôme d'ingénieur) 2021

École Nationale des Sciences Appliquées de Tanger (ENSAT), Morocco

Integrated preparatory classes (2015 – 2018), then engineering cycle (2018 – 2021).

LANGUAGES

Arabic: native · **French and English**: full professional proficiency