



Malek Maghraoui

AI Engineer · AI you can trust in production · LLM agents, evals, guardrails and RAG

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AI engineer who ships LLM features that hold up with real users: agents that ask before they act, evaluation harnesses that check answers against ground truth, and pipelines that refuse to invent facts. I work end to end, from Postgres schemas and Terraform to agent tool calling and the UI, in TypeScript and Python. I like small teams, fast feedback and owning a problem until it is solved in production.

EXPERIENCE

Full Stack AI Engineer · Korbyx (formerly Ailéane), Paris · remote Nov 2025 – Present

Software studio building Korbyx, a B2B analytics platform with an AI assistant, and custom AI platforms for clients.

- Built the assistant's **LLM evaluation harness**: it replays a fixed question set against the production model and checks every answer against the analytics engine's ground truth. The deterministic suite runs in CI, with mismatch diagnostics and prompt-injection guardrail tests.
- Core contributor to the platform's TypeScript monorepo on AWS (ECS, RDS, Bedrock), provisioned with Terraform.
- Shipped data connectors, a governed KPI layer and scheduled jobs with failure alerting.
- Built AI features for client platforms: call-transcript summaries, audit reports and AI course generation.

Technical Project Supervisor · Technix Informatique, Ariana, Tunisia Feb 2026 – Present

- Lead two internal products from MVP toward spin-off: technical roadmap, stack choices and weekly sprints.
- Mentor a team of interns in Next.js, TypeScript and AI integration, and review their code.

Earlier roles 2024 – 2025

- **Team Lead, ANNAHR Co.** (part-time, Jun – Sep 2025): led four developers building CarPart, a MERN marketplace for auto spare parts, with role-based access for admins and vendors.
- **Frontend Developer Intern, AriMayi** (France, remote, Jun 2025): real-estate web app in Next.js and TypeScript from Figma designs, REST integrations, performance and SEO work.
- **Full Stack Developer, Artify** (Tunisia, Jul 2024 – Mar 2025): joined as an intern, then rebuilt the platform as a freelancer in Next.js and TypeScript with a Tailwind/shadcn UI and GitHub Actions CI/CD.

SELECTED PROJECTS

QTrust · multi-tenant SaaS for Quranic schools (solo) case study · live

- LLM admin agent with ~43 tools: arguments are validated by Zod schemas generated from the tool definitions, and **every write action is held for human approval**.
- Next.js 16 and MongoDB (~30 tenant-scoped models), NextAuth, plans and entitlements, billing, audit log, trilingual right-to-left UI, plus an Expo/React Native tablet app for QR attendance.

Bridge · accessibility platform for neurodivergent and disabled users case study · live

- Led a hackathon build (GOMYCODE × NVIDIA, Sep 2026) into a live trilingual (EN/FR/AR) Next.js 16 and Supabase app: LLM guide with multi-provider fallback and **validated output**, row-level security on every table with 19 automated checks.
- Chrome extension running fully on device: real-time music removal from tab audio (ONNX Runtime, ~150 ms latency) and camera sign-to-speech (MediaPipe).

Edah Studio · AI lecture-to-video generator case study

- Turns a written lecture into a narrated Arabic/English video with a lip-synced 3D presenter, 19 animated visual types, word-timed captions and MP4 export (FastAPI, React, Three.js, Playwright, FFmpeg).
- **Five-layer faithfulness pipeline** so the model cannot invent facts: strict prompting, a number gate, scene-to-source matching, self-correction with verbatim fallback and coverage checks.

Win El Dhaw · live crowdsourced power-outage map for Tunisia case study · live

- Merges reports from the web app, a Telegram bot and a scheduled Python news scraper into DBSCAN-clustered outage zones (Supabase PostGIS and Realtime) across 24 governorates and 264 delegations.

TuniTaxAI · assistant for Tunisian accountants (solo)

2025

- RAG over 5,000+ Tunisian tax-law and financial documents (Python, LangChain, vector database), with tax simulation and anomaly detection in uploaded documents. Answers stay tied to the source law.

Open source · God's Eye View (~47k stars)

github

- Merged fix for radio-station country resolution (common country names the browser API leaves out), with tests.

quran-dataset · open structured dataset of the Qur'an (maintainer)

github

- JSON and CSV releases. v1.2 removed duplicated verses (12,472 rows down to the correct 6,236), fixed word lists and added a validation script.

SKILLS

AI: LLM agents and function calling, evaluation harnesses, guardrails, human-in-the-loop approval, RAG and vector search, AWS Bedrock, Gemini, OpenAI, Groq, Vercel AI SDK, LangChain, ONNX Runtime, MediaPipe

Languages: TypeScript, JavaScript, Python, SQL

Frontend & mobile: React 19, Next.js 15/16, TanStack Start, Tailwind CSS, shadcn/Radix, React Native/Expo, Chrome extensions (MV3), i18n and right-to-left UI

Backend & data: Node.js, Hono, NestJS, FastAPI, PostgreSQL (Drizzle, RLS, PostGIS), Supabase, MongoDB, Redis, Inngest

Cloud & delivery: AWS (ECS, RDS, S3, EventBridge, Secrets Manager), Terraform, Docker, GitHub Actions, Vercel, Vitest, Playwright

EDUCATION & LEADERSHIP

BSc Computer Science (Big Data) · ISIMS, University of Sfax

2023 – 2026

Graduated with honours (Mention Bien).

- **AWS Cloud Club Captain**, ISIMS (Mar 2024 – Feb 2026): ran 15+ hands-on workshops and a cloud conference for 60+ attendees from several universities; AWS Bronze and Silver captain badges.
- **Lead AI & Python Instructor**, AJST science camps (Jul 2025 – Mar 2026): designed and taught an AI curriculum for 10 to 18 year-olds, who built their own LLM assistants and real-time computer-vision projects.
- **23 hackathons**, including GOMYCODE × NVIDIA, where Bridge started.
- **Certifications:** MongoDB (RAG apps, Vector Search, schema design), HackerRank Software Engineer.
- **Languages:** Arabic (native), English (B2, IELTS), French (B1).