

ZAKARIA GAFAOUI

AI Tech Lead & Solutions Architect

Python · React · Cloud · GenAI — 15 years shipping, from MVP to enterprise production

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15 years

building software, hands-on and still in the code

5 → 15 devs

technically led, onshore and offshore (France, India)

10 missions

six sectors, from MVP to enterprise production

e2e RAG

pipeline designed and shipped to production from scratch

A tech lead who ships code

I am the technical referent teams come to when a subject is stuck — and I still write the production code. Fifteen years leading development teams of five to fifteen, onshore and offshore, delivering end to end: design, architecture, development, production. I designed and shipped the enterprise AI portal of a large industrial group — multiple LLM services orchestrated behind a unified API gateway, an end-to-end RAG pipeline, and the portal’s own code. Before that: Engie, BPCE, Société Générale, Orange and the French public sector, mission-critical platforms under strong security and compliance constraints. Python and React are home ground and the stack changes with the project. Always in Agile teams (Scrum), and genuinely passionate about code craft and engineering best practices.

CORE STACK

Python (FastAPI, Django, Flask) · React / TypeScript · Node.js, Java / Spring · Azure, AWS · Docker, Kubernetes, CI/CD · Microservices, REST APIs, design patterns · LLM APIs, RAG, pgvector · PostgreSQL, MongoDB · Git

EXPERIENCE

ALSTOM

07/2025 → present

Solutions Architect & Tech Lead — Enterprise AI Platform

Ship the group’s unified AI portal — conversational assistant and qualification tools — at group scale. Enterprise AI Solutions department.

- Technical lead of the delivery: architecture decisions, code reviews and day-to-day unblocking of the development team, split between France and India.
- Designed the target architecture: multiple LLM services orchestrated behind a unified API gateway, with SSO/SAML authentication and access governance.
- Built and shipped the end-to-end RAG pipeline — embeddings, indexing, vector database — from design to production.
- Developed the portal fullstack (Python/FastAPI, React / TypeScript / Vite) and drove business / IT / security alignment.

Python, FastAPI · React, TypeScript, Vite · LLM APIs (Claude, OpenAI) · SSO, SAML · GitLab CI, Docker, Azure

ENGIE

06/2024 → 07/2025

Architect & Senior Fullstack Developer — Credit Risk Portal

Rebuild the credit risk portal, consolidating several third-party solutions into a single 360° view for credit analysts. Risk Management department.

- Contributed to the target architecture: federating heterogeneous data sources into one unified portal.
- Rebuilt the entire React / TypeScript / Vite frontend and its 360° portfolio view from scratch.
- Migrated the platform to Azure AKS: containerisation, load balancer, SSL certificates, k6 load testing.
- Implemented Okta SSO (OAuth 2.0 / OpenID Connect) and evolved the existing credit alerting portal (Python / React).

React, TypeScript, Vite · Python · Docker, Azure AKS · Okta · Azure DevOps · k6

FREE

07/2023 → 03/2025

Fullstack Tech Lead — HR Applications

Lead the development team building new HR management and employee evaluation applications.

- Led the development team on the new HR and evaluation applications: technical decisions, code reviews, delivery tracking.
- Evolved and extended a portfolio of Flask, Django and React applications.
- Industrialised continuous delivery (GitLab CI, Docker).

Python (Django, Flask) · React, TypeScript · PostgreSQL · GitLab CI, Docker

Tech Lead Solutions — Financial Forecasting Platform, Decision Finance

Design and integrate a financial forecasting and stress-testing platform, into the group's Finance IT ecosystem (Finance, Risk, Strategy).

- Architected and integrated the platform modules into the group's Finance IT ecosystem.
- Implemented the scientific computing engines (Python / NumPy) behind the stress-test models.
- Built the Python/Flask backend and Vue.js dashboard frontend, and deployed the full CI/CD chain (Git → Jenkins → XL-Release → XL-Deploy → Azure DevOps).

Python, Flask, NumPy · Vue.js, Node.js · MongoDB · Jenkins, XL-Release, Azure DevOps

CEGAPE

Integration Tech Lead — HRIS (HR software vendor)

Integrate an HRIS into large public-sector organisations — major public operators and local government — under stringent security, GDPR and interoperability constraints.

- Led integrations for three major clients as the client-facing technical interface between vendor, client project teams and security / identity teams.
- Designed the SSO, LDAP and REST API connectors for legacy interoperability.
- Implemented GDPR requirements: privacy by design, consent management, data anonymisation.

Java, Spring, Angular · PostgreSQL, LDAP · Ansible, Jenkins, GitLab CI · GDPR

EARLIER CAREER

DGFIP — Architect & Senior Developer 04/2016 → 02/2018

IT architecture portal: the tool used to map and govern the application landscape, designed and built end to end (Django, DRF, Angular).
Response times cut eightfold — 8 s → 1 s.

SOCIÉTÉ GÉNÉRALE — Integration Tech Lead 02/2018 → 05/2018

API platform: decomposed a monolithic Database-as-a-Service into microservices, Python/Flask REST webservices, Grafana monitoring.

ORANGE — Fullstack Consultant 05/2015 → 04/2016

OSS data warehouse: ETL pipelines (Ab Initio) feeding IBM DB2, PHP/Zend query interfaces, administration across four environments.

BOUYGUES TELECOM — Fullstack Consultant 03/2014 → 05/2015

B2B enterprise systems: redesigned the customer portal and led the Symfony 2 → 3 migration.

HIT RADIO — Head of Web & Digital 02/2010 → 03/2014

Multilingual Django platform, Node.js streaming (5 webradios, sub-100 ms), React Native iOS/Android app. Team of 5 engineers, +300% organic traffic.

FORMADEMOS — IT Manager 2009

Demos Group. Designed and built iProfil, an HR management application.

EDUCATION

2008 — 2011	Master's Degree — Information Systems ENIM Rabat / ENSA Lyon
2007 — 2008	Professional Bachelor — IT Infrastructure Administration Faculty of Sciences, Rabat
2005 — 2007	Associate Degree — Database Administration EST Salé

LANGUAGES French bilingual · English bilingual · Arabic native

SKILLS

LEADERSHIP & CLIENT RELATIONSHIP

Technical referent on project teams · Teams of 5 to 15, onshore and offshore (France, India) · Code reviews, technical arbitration, levelling up the team · Client-facing: demos, architecture rationale and recommendations to business, IT and security stakeholders · Agile: Scrum, Kanban, ceremonies held with business and IT

DEVELOPMENT

Python (FastAPI, Django, Flask, DRF), Node.js, Java / Spring, PHP / Symfony · React, React Native, TypeScript, Vue.js, Angular · Object-oriented design, design patterns · Pytest, Cypress, Selenium, k6, unit & integration testing, TDD / BDD · Git

ARCHITECTURE & INTEGRATION

Microservices, event-driven, API-first, unified portals, service federation · API management: design, exposure, security, governance (REST, GraphQL, OpenAPI) · Legacy modernisation · Architecture Decision Records

AI & DATA

LLM orchestration, RAG (embeddings, indexing, vector databases, pgvector), prompt engineering, Claude & OpenAI APIs · PostgreSQL, MongoDB, Oracle, Cassandra, CosmosDB, DB2

CLOUD, DEVOPS & SECURITY

Azure (AKS, APIM, DevOps), AWS, Scaleway · Docker, Kubernetes, GitLab CI, Jenkins, Ansible, XL-Release · Grafana, InfluxDB · OAuth 2.0, OIDC, SAML 2.0, Okta, Entra ID, LDAP · GDPR, privacy by design

PRODUCTS FOUNDED

AIHM

AI Hiring Manager — Founder & architect

Built end to end, from MVP to production: CV parsing, AI phone screening and video interviews, multi-criteria scoring, CV-to-job matching, reporting — GDPR compliant.

Python, FastAPI · React, TypeScript · PostgreSQL, pgvector · Claude API, RAG

FORMEA

AI-native LMS — Founder & architect

Turns documents (Word, PDF) into complete interactive training: pedagogical structure, content and assessments generated automatically.

React, TypeScript, FastAPI · PostgreSQL · LLM APIs