

Mohamed Ali Bouzir

Junior AI Engineer

LLM/RAG • Machine Learning • FastAPI • PostgreSQL/pgvector • Next.js

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GitHub: <https://github.com/dalibouzir> | Portfolio: <https://dali-eight.vercel.app>

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Professional Summary

Hands-on AI engineer building evidence-first AI decision-support systems with FastAPI, PostgreSQL/Supabase, pgvector-backed RAG, ML advisory signals, and structured LLM response composition. Focused on SQL-grounded answers, validation, and human-in-the-loop operational workflows.

Core Value Proposition

- Build SQL-grounded LLM/RAG assistants that separate facts, context, and generated responses.
- Develop FastAPI backend services connected to PostgreSQL/Supabase, pgvector, and operational workflows.
- Validate AI behavior through audits, route checks, smoke tests, and readiness-gated ML outputs.

Technical Skills

AI / LLM / ML: LLM applications, RAG, Machine Learning, model validation, vector search, human-in-the-loop AI

Backend: Python, FastAPI, REST APIs, SQLAlchemy, Alembic

Data: PostgreSQL, Supabase, pgvector, SQL

Frontend / Cloud: Next.js, React, Docker, Azure Container Apps, Vercel

Supporting: OpenSearch, MinIO, Redis, Git/GitHub

Professional Experience

AI Engineer Intern — Verdanova Solutions **March 2026 – July 2026 | Monastir, Tunisia**

Project: WeeFarm — AI-Assisted Decision-Support Platform for Agricultural Cooperatives

- Built WeeFarm, an AI decision-support platform for agricultural cooperatives using FastAPI, Next.js, PostgreSQL/Supabase, and pgvector.
- Designed an evidence-first assistant pipeline separating SQL factual evidence, RAG retrieval, ML advisory signals, and LLM response composition.
- Implemented role-scoped workflows for stock, lots, post-harvest traceability, treasury, exports, document uploads, and manager operations.
- Converted stakeholder feedback from project meetings into scoped backend, frontend, workflow, AI assistant, export, and role-hierarchy improvements.
- Added structured assistant outputs, warning logic, fallback behavior, and clarification handling to keep responses grounded and decision-safe.
- Validated final assistant baseline with 20/20 executed cases, 17 PASS / 3 PARTIAL / 0 FAIL, 100% route accuracy, and 0 runtime errors.
- Integrated readiness-gated ML advisory signals with strict train/test validation, reaching 0.8412 high-risk recall in the strict split protocol.

- Developed Laravel-based workflows for gym memberships, subscriptions, session planning, and coach scheduling.
- Implemented database-backed CRUD workflows for managing members, coaches, sessions, and administrative operations.
- Delivered backend and back-office improvements focused on secure administrative usage and operational coordination.

Selected AI Projects

AI Business Agent — Team Academic Project

- Contributed to an AI decision-support project combining RAG retrieval, LLM orchestration, simulation workflows, and web interfaces with FastAPI, PostgreSQL/pgvector, OpenSearch, MinIO, Redis, and Docker.
- Worked on modular service design across retrieval, orchestration, simulation, and response-generation components.

AFFA — Automated Fantasy Football Assistant

- Built an ML-based recommendation prototype for weekly fantasy football decisions using Python services and API-driven data flows.
- Processed football-related data for player comparison, recommendation, and operational decision workflows.

QuirkHire — AI Resume Recommendation Platform

- Built an AI-based resume recommendation prototype with recruiter workflows using React, Django/DRF, and Supabase.

Education

École Supérieure Privée d'Ingénierie de Monastir

Engineering Degree in Computer Science, Data Science & AI — 2023–2026

Faculty of Sciences of Monastir

Bachelor in Software Engineering / Computer Science — 2020–2023

Certifications

- Python for Data Science, AI & Development — IBM, 2023
- What is Data Science? — IBM, 2023
- Fundamentals of Visualization with Tableau — University of California, 2023

Languages

Arabic: Native | French: Fluent | English: Fluent