

# Mourad Abahani

AI Engineer

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## Summary

AI Engineer with hands-on experience designing and deploying conversational AI agents, LLM-powered workflows, and reinforcement learning systems in production environments. Specialized in procurement automation and enterprise AI integration at scale, with a focus on multi-agent architectures. Strong software engineering foundation from the 42 Network (1337 Coding School).

## Profiles

[github](#)  
[Czarslayer](#)

[linkedin](#)  
[mourad abahani](#)

[</> codingame](#)  
[MABAHANI](#)

## Education

### 1337 Coding School (42 Network)

Digital Technology Architecture

Software Engineering

2022 - Present

Intensive project-based curriculum focused on systems programming, algorithms, and software architecture. Built foundational expertise in C, C++, Unix systems, networking, and collaborative engineering through peer-reviewed projects.

## Skills

### AI & Machine Learning

LangGraph, LangChain, RAG pipelines, multi-agent systems, HITL workflows, prompt engineering, LLM API integration, reinforcement learning, PyTorch

### Programming Languages

Python / TypeScript / JavaScript / C++ / C

### Frontend

Next.js, React, Tailwind CSS, shadcn/ui, Vanilla JS, HTML5, CSS3

### Collaboration

Cross-functional teamwork across university departments including design, development, debugging, and stakeholder communication.

### DevOps & Infrastructure

Git, Docker, Docker Compose, NGINX, Linux

### Backend & Data

PostgreSQL, Prisma, pgvector, FastAPI, Redis, RESTful APIs

## Experience

### Mohammed VI Polytechnic University

AI Engineer

Ben Guerir

March 2025 - Present

- Engineered AIDA purchase agent, a production conversational AI procurement platform built on LangGraph with a Next.js frontend, integrating with enterprise RPA systems for real-time purchase requisition creation, routing, and validation. Implemented Human-in-the-Loop (HITL) interrupt workflows, semantic catalog search, and automated PO form generation, reducing manual input and procurement errors across the department.
- Advised senior operations leadership on AI adoption strategy and internal tooling automation, translating complex AI concepts for non-technical stakeholders through workshops and interactive demos.
- Designed and shipped a reinforcement learning game for the DEO Open Day, managing the full pipeline from environment design and model training to live platform integration.

## Volunteering

### 1337AI

Organized and supported the Think AI Hackathon at 1337, facilitating communication between technical mentors and participating teams while gaining hands-on exposure to diverse AI applications through team projects.

Mar 2023 - 1 mo

### Microsoft Xbox Game Camp Africa

Staff Volunteer at Xbox Game Camp Africa 2024 at UM6P, supporting event logistics and engaging with the developer community. Gained valuable insights, expanded my network, and contributed to a successful collaborative environment.

Aug 2024

## Projects

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### AIDA - AI Procurement Agent

2025 - now

- **Description:** Conversational AI platform that automates UM6P procurement workflows, from purchase request creation to parcours routing. A LangGraph agent pipeline classifies each article, searches framework contracts and supplier conventions via Meilisearch, and routes items through the correct procurement pathway (contrat cadre, convention, consultation, gre-a-gre, achat en ligne). Human-in-the-loop interrupts let users confirm matches before submission. An independent evaluator detects and auto-corrects agent hallucinations.
- **Technologies:** LangGraph, FastAPI, Next.js 15, PostgreSQL, Prisma, Redis, NextAuth.js, Vercel AI SDK, Docker Compose, NGINX, Loki

### RL Game - DEO Open Day

2025

- **Description:** Designed and deployed an interactive reinforcement learning game for UM6P's Digital Ecosystem Office Open Day. Managed the complete pipeline including environment design, model training, and live platform integration for a public-facing audience demo.
- **Technologies:** Python, PyTorch, Reinforcement Learning

### Semantic Product Catalog Search

2024

- **Description:** Built a pgvector-based semantic search system for university procurement catalogs covering lab consumables and chemical products in French. Migrated from a memory-intensive JSON embedding approach to a PostgreSQL + pgvector architecture with a Next.js frontend, significantly improving search reliability and scalability.
- **Technologies:** Next.js, TypeScript, PostgreSQL, pgvector, Python, LLM embeddings

### Ft\_transcendence

- **Description:** Developed the front-end for a real-time multiplayer Pong game website. Implemented a responsive single-page application with user authentication, live chat, and tournament systems. Ensuring cross-browser compatibility and applying web security best practices.
- **Technologies:** Vanilla JavaScript, HTML5, CSS3, Bootstrap, WebSocket, RESTful APIs

### Inception

- **Description:** Docker-based infrastructure project. Created and managed multi-container applications using Docker Compose, implemented secure inter-service networking, and configured web servers, databases, and application stacks in isolated environments with automated build processes.
- **Technologies:** Docker, Docker Compose, NGINX, WordPress, MariaDB

### WebServer

- **Description:** Built an HTTP/1.1 web server from scratch in C++98 as part of the 42 curriculum. Supports GET, HEAD, POST, PUT, and DELETE methods, static file serving, CGI for dynamic content, and concurrent client connections via epoll().
- **Technologies:** C++, Sockets, epoll

### Minishell

- **Description:** Developed a custom Unix shell in C with process management, pipelines, I/O redirection, environment variable expansion, and robust memory management adhering to strict 42 coding standards.
- **Technologies:** C, POSIX System Calls, GNU Readline, Makefile

## Languages

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### French



### English



## Certifications

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### CodinGame Certification - AI - GOLD

CodinGame

<https://www.codingame.com/certification/ChE8I02LgJgYS91UJzo5QA>

### Web Programming Foundations

Coursera

<https://coursera.org/share/9a7f0c8596d3114a5f57cb1cb4704356>