

Mouad Zahnoun

FULL-STACK DEVELOPER

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SUMMARY

Full-Stack Developer building production-grade web applications, real-time systems, and AI-powered tools. Currently enrolled in the intensive engineering curriculum at 1337 Medtech (42 Network), where I ship systems-level projects in C/C++ alongside modern web platforms in Next.js and FastAPI. Founder of Chimex Studio, a digital product studio delivering full-stack builds and brand systems for clients. Comfortable owning features end-to-end and collaborating asynchronously across time zones in English, French, and Arabic.

TECHNICAL SKILLS

Languages	TypeScript, JavaScript, Python, C, C++, SQL, Bash
Frontend	Next.js 15, React, Three.js, React Three Fiber, Tailwind CSS
Backend	Node.js, FastAPI, WebSockets, REST APIs, HTTP internals
Databases	PostgreSQL, pgvector, Redis, SQLite
AI / ML	RAG pipelines, vector embeddings, LLM function calling, constrained decoding
DevOps	Docker, Docker Compose, Linux (Ubuntu), Git, GitHub Actions, Nginx
Other	Systems & network programming, cybersecurity fundamentals, technical writing

EXPERIENCE

Founder & Full-Stack Developer — Chimex Studio 2025 – Present
chimex-tech.me — Independent digital product studio

- Founded an independent studio delivering full-stack web builds, brand systems, and interactive experiences for clients in e-commerce and lifestyle.
- Designed and shipped a 3D product pitch site for a fragrance brand using Next.js and React Three Fiber, integrating a real-time flacon hero with mobile-optimized rendering.
- Own the full stack end-to-end: discovery, UI, front/back implementation, deployment, and ongoing client communication in Darija, French, and English.

Cybersecurity Contributor — Independent 2025
Documentation, defensive research, and tooling

- Authored a full MISP documentation set (installation guide, interface walkthrough, and a 16-chapter usage guide) for a security operations team.
- Reproducible research on WordPress REST API vulnerabilities (SSRF and RCE chains) and hands-on work with the airgeddon wireless auditing framework.
- Built Python OSINT scraping tooling as part of 42's Cybersecurity Piscine (Arachnida project).

SELECTED PROJECTS

ft.transcendence — Async Code Hub (AI-Powered Collaborative Workspace) Team of 5 · 2025
Python · FastAPI · PostgreSQL + pgvector · Next.js · Docker

- Own the RAG / AI service: vector embeddings, retrieval pipeline, and LLM function calling for a real-time collaborative coding workspace.
- Designed the pgvector schema and ingestion pipeline so teammates can query the codebase and past sessions in natural language.

Webserv — HTTP/1.1 Server in C++ Team of 4 · 2025
C++ · POSIX sockets · CGI · HTTP protocol

- Owned the HTTP layer end-to-end: request parsing, response building, chunked transfer, file uploads, and session management.
- Nginx-inspired configuration parser; tested successfully against real browsers under concurrent load.

Inception — Multi-Container Infrastructure Solo · 2024
Docker · Docker Compose · Nginx · WordPress · MariaDB

- Built a production-style multi-container stack from scratch: hardened Nginx with TLS, PHP-FPM WordPress, and MariaDB, each in its own container with persistent volumes.
- Custom Dockerfiles for every service (no prebuilt images) on an isolated Docker network.

Minishell — Unix Shell in C Team of 2 · 2024
C · POSIX · fork/execve · signals · pipes

- Reimplemented a bash-like shell: parsing, pipelines, redirections (< > << >>), environment variables, and builtin commands.
- Bash-accurate signal handling (SIGINT / SIGQUIT) and quoting rules.

cub3d — Raycasting Engine Solo · 2024
C · MLX42 · DDA algorithm · texture mapping

- Wolfenstein-style 3D engine with textured walls, smooth first-person controls, and pixel-accurate DDA raycasting, all built on a 2D map.

EDUCATION

1337 Medtech (42 Network) 2024 – Present
Software Engineering — peer-to-peer, project-based curriculum

- Deep coverage of systems programming (C, C++), Unix, networking, and modern web stacks; see Projects section for selected deliverables.
- Completed the Cybersecurity Piscine and Python functional-programming modules.

LANGUAGES

Arabic — Native · **French** — B2 (Upper-Intermediate) · **English** — B2 (Upper-Intermediate)