ADEL MERAD

Full-Stack Developer | Master's Student in Software Engineering

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PROFILE

Full-stack developer and Master's student at USTHB. I build web applications end to end, from the database and API to the interface. I have shipped two products used in production by a medical imaging center, and worked on OAuth2 / OpenID Connect single sign-on during my internship at Mobilis.

EXPERIENCE

Manager & Full-Stack Developer — CIM Dr MERAD, Medical Imaging Center *Dec 2025 – Present*

Part-time | Birtouta, Algiers | cimdrmerad.com

- Manage the digital side and day-to-day operations of a medical imaging center (CT scan, ultrasound, mammography).
- Built and maintain the bilingual French/Arabic website: local SEO, schema.org structured data, rule-based chatbot and GA4 lead tracking (HTML, CSS, JavaScript).
- Built an attendance & payroll web app used in production at the center (Next.js, TypeScript, Redis, Vercel) — GitHub.
- Ran a Pink October screening campaign on Meta Ads (Arabic copy, local targeting, WhatsApp lead generation), and mapped 68 competing centers with an in-depth audit of 11.

Software Engineer Intern — ATM Mobilis *Jun 2026 – Aug 2026*

Two-person team | ASP.NET Core, OpenIddict, Entity Framework Core, SQL Server, React

- Built a single sign-on platform on OAuth2 / OpenID Connect, with mandatory PKCE, refresh token rotation, and global and per-application roles.
- Developed a Backend-for-Frontend web client: HttpOnly session cookies, server-side tokens, JWKS token validation and proactive token refresh.

Remote Sensing Intern — Algerian Space Agency (ASAL) *Sep 2025 – Oct 2025*

Earth Observation & Remote Sensing Department | ERDAS Imagine, ENVI, Google Earth Engine (Python)

- Processed Alsat-2B and Sentinel-2 imagery: band stacking, geometric correction, pan-sharpening and ISODATA classification.
- Analyzed vegetation change (NDVI, 2000–2020) and forest cover in the El-Tarf province with Google Earth Engine.

Developer Department & IT Section Member — Micro Club (USTHB) *Oct 2024 – Present*

- Build and maintain club and event websites, and support technical workshops and events.

Marketing Member — Open Minds Club (USTHB) *Oct 2025 – Present*

- Promote club events and activities to student communities across campus.

SELECTED PROJECTS

Realtime Leaderboard *2026*

Next.js, TypeScript, PostgreSQL, Prisma, Server-Sent Events, Vitest | GitHub | Live

- Built a score service with a REST API, hashed per-game API keys, and live rankings pushed with SSE and PostgreSQL LISTEN/NOTIFY.

Multi-Seller E-Commerce Platform — Bachelor's Final Project *Feb 2025 – Jun 2025*

Team project | React, TypeScript, Laravel, MySQL, Python | GitHub

- Built a marketplace with client, seller and admin roles, PayPal and cash-on-delivery payments, and a product recommendation system.

MiniAlgo Compiler *Mar 2026 – Jun 2026*

Team project | C, Flex, Bison | GitHub

- Built a complete compiler: lexical, syntax and semantic analysis, quadruples, 5 optimization passes and 8086 assembly generation.

MPEG-4-Style Video Encoder/Decoder *Mar 2026 – May 2026*

Team project | Python, NumPy, OpenCV | GitHub

- Built a pipeline with YCbCr chroma subsampling, DCT I-frames, motion-compensated P-frames and zlib entropy coding.

HACKATHONS & COMPETITIONS

NCS Hackathon — HOKOKI *Jun 2026*

React, NestJS, PostgreSQL, LangChain, RAG | Live

- AI legal platform for Algeria: laws in plain language, AI assistant, contract analysis and step-by-step procedures.

MicroHack — APCS *Feb 2026*

React, Laravel, FastAPI, Google Gemini, Ollama, Docker | GitHub

- Port terminal management system with truck booking, QR gate access and an AI assistant for booking questions.

PEXILIS Hackathon — Diab (team Data Spark) *Feb 2026*

React Native, Expo, TypeScript, Zustand | Live

- Gamified app that helps people with diabetes track their health, where healthy habits grow a virtual garden.

Startup Weekend Algiers — SheCare *Sep 2025*

- Digital platform supporting women battling breast cancer, from ideation through prototyping and pitching to a jury.

GreenHat CTF 2 *2025*

- Top 10 with my team, across cryptography, hardware and OSINT challenges.

EDUCATION

Master's Degree — Software Engineering *2025 – Present*

USTHB — University of Science and Technology Houari Boumediene, Algiers

Bachelor's Degree — Computer Science *2022 – 2025*

USTHB — University of Science and Technology Houari Boumediene, Algiers

SKILLS

Backend: ASP.NET Core, NestJS, Laravel (PHP), Node.js, FastAPI, Spring Boot (basics), REST APIs
Frontend & Mobile: React, Next.js, TypeScript, JavaScript, Tailwind CSS, HTML, CSS, React Native
Databases: PostgreSQL, MySQL, SQL Server, MongoDB, Redis, Prisma, Entity Framework Core
Security: OAuth2, OpenID Connect, PKCE, single sign-on, CTF competitions
AI & ML: RAG, LangChain, LLM integration, scikit-learn, ML fundamentals
Programming: Python, C#, Java, C
Tools: Git, GitHub, Docker, Vercel, Linux
Remote Sensing: ERDAS Imagine, ENVI, QGIS, Google Earth Engine
Languages: Arabic (Native), French (Fluent), English (Professional)