

Sofiène Zayati

Full-Stack & AI Engineer | Embedded Systems Background

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/ Tunis, Tunisia

PROFILE

Full-stack and AI engineer pursuing an Engineering Degree in Web and Internet Technologies at ESPRIT, backed by a Bachelor's Degree in Embedded and Mobile Systems. Develops web products, applied AI workflows, Python and Node.js services, and connected ESP32/WT32 systems across interfaces, APIs, data, deployment, and hardware.

ENGINEERING FOCUS

Product systems | Applied AI | API architecture | Automation | Embedded IoT | Delivery

PROJECT EXPERIENCE

2026

LeadX HRMS - Full-Stack & Mobile Project

Genius PMO

- Designed and engineered a role-aware Next.js workforce platform and Android attendance companion sharing FastAPI and PostgreSQL.
- Prepared server-owned authorization, attendance rules, automated checks, Docker delivery, and backup and recovery procedures.

Jul 2025 - Aug 2025

AI Automation & Full-Stack Developer

Inspark Connect | Tunis, Tunisia

- Developed n8n and Gemini assistants integrated with a Laravel, Vue.js, and MySQL e-commerce platform for product creation, enrichment, campaigns, sales reporting, and logistics analysis.
- Implemented guarded intent routing, JSON validation and sanitization, relational SQL aggregation, SMTP and REST integrations, and fallback handling for structured business outputs.

Feb 2024 - May 2024

Embedded Systems & Software Developer

Scheidt & Bachmann Maghreb | Megrine, Tunisia

- Engineered MacroPark across five Scrum sprints, integrating administration, Flutter mobile access, Quercus LPR, FastAPI services, Mosquitto MQTT, and WT32-ETH01 barrier firmware.
- Validated camera/MQTT and mobile/BLE access paths, four relay channels, persistent controller configuration, OTA maintenance, access history, and Docker Compose deployment.

Jan 2023 - Feb 2023

Hardware & Software Developer

Scheidt & Bachmann Maghreb | Megrine, Tunisia

- Prototyped Smart Unlock using ESP32 scanning, Eddystone BLE identifier checks, relay and LED actuation, and Mosquitto MQTT status messaging.

EDUCATION

Sep 2024 - Present

Engineering Degree in Web and Internet Technologies (TWIN)

ESPRIT School of Engineering | Ariana, Tunisia

Sep 2021 - Jun 2024

Bachelor's Degree in Embedded and Mobile Systems

Higher Institute of Technological Studies of Rades | Tunisia

Sep 2017 - Jun 2021

Technical Sciences Baccalaureate

Lycee Technique Farhat Hached | Rades, Tunisia

SELECTED TECHNICAL PROJECTS

Sobly.tn - Deployed Digital Storefront2026

- Designed and deployed a bilingual Next.js storefront with catalog, checkout, owner administration, SQLite persistence, Docker Compose, and Caddy HTTPS.

sofienezayati.tn/project/sobly

Ben Mahmoud Stock - Offline Shop Operations2026

- Built an Electron, React, and SQLite Windows product for inventory, invoicing, returns, reporting, printing, and backups, with typed IPC and transactional writes.

sofienezayati.tn/project/benmahmoudstock

SmartProperty - Real Estate & Applied AI2026

- Connected multi-role React workflows to NestJS, FastAPI, and MongoDB with recommendations, valuation, OCR review, and real-time property operations.

sofienezayati.tn/project/smartproperty

Machetamache - Culinary Operations2026

- Engineered a local-first React, Express, and SQLite workspace for recipe costing, portion scaling, kitchen sheets, backups, and portable Windows delivery.

sofienezayati.tn/project/machetamache

Additional work includes MacroPark, Prigado AI, TounsiAds, InnoMall, Green Coffee OS, Interna, and Smart Agri - an ESP32 crop-monitoring system with temperature, humidity, soil-moisture, Blynk telemetry, and local indicators. Full case studies: sofienezayati.tn.

TECHNICAL TOOLKIT

Programming	TypeScript, JavaScript, Python, Java, C, C++, SQL, PHP
Frontend	React, Next.js, Angular, Vue.js, Tailwind CSS, JavaFX
Backend & APIs	NestJS, Express, FastAPI, Spring Boot, Laravel, Symfony, REST, WebSockets
AI & Automation	n8n, Gemini, Groq, XGBoost, CLIP/BLIP, OCR, recommendation systems
Data	MongoDB, MySQL, PostgreSQL, SQLite, Firebase
Embedded & IoT	ESP32, WT32-ETH01, Arduino, MQTT, BLE, Ethernet/Wi-Fi, sensors, relays, OTA
Delivery	Git, Linux, Docker, Docker Compose, Kubernetes, Jenkins, SonarQube, CI/CD
Engineering	API design, realtime systems, testing, responsive UX, hardware-software integration

LANGUAGES

Arabic Native	English Fluent	French Fluent	German Goethe-Zertifikat A2
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ENGINEERING RANGE

Web products, applied AI, and connected devices. Experience spans product interfaces, APIs, data models, automation, realtime messaging, containerized services, embedded firmware, and physical control.