

Mahmoud Frikha

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PROFILE

Engineer specialized in embedded systems, IoT, and web development, with hands-on experience in hardware-software integration and automation systems. Passionate about developing innovative, reliable, and user-focused technological solutions.

EXPERIENCE

Web Development Intern	Sfax, Tunisia
• <i>ESSE Research Laboratory, ENET'Com</i>	<i>June 2024 – July 2024</i>
Smart Greenhouse IoT Dashboard (Internship)	Sfax, Tunisia
• <i>ESSE Research Laboratory, ENET'Com</i>	<i>July 2024 – September 2024</i>
Intelligent Conversational Assistant with RAG (Internship)	Tunis, Tunisia
• <i>OneFold Tech</i>	<i>June 2025 – July 2025</i>
Full-Stack Web Development (Freelance)	Tunis, Tunisia
• <i>OneFold Tech</i>	<i>July 2025 – Present</i>

EDUCATION

National School of Electronics and Telecommunications of Sfax (ENET'Com)	Sfax, Tunisia
• <i>Engineering Degree in Electrical and Communication Systems Engineering</i>	<i>Sept 2023 – Present</i>
Faculty of Sciences of Sfax (FSS)	Sfax, Tunisia
• <i>Pre-Engineering Studies – Physics and Chemistry</i>	<i>Sept 2019 – June 2023</i>

SELECTED PROJECTS

- Intelligent Conversational Assistant with RAG**
A full-stack conversational AI system leveraging retrieval-augmented generation and real-time web search for accurate, verified responses. *Stack: Flask, Angular, PostgreSQL.*
- RackManager (Freelance)**
Rack & asset management web app for datacenters—inventory by U-position, work orders,, and role-based access. *Stack: Angular, Spring Boot.*
- Smart Greenhouse IoT Dashboard**
Greenhouse monitoring/control with LoRa communication; integrates Arduino, Raspberry Pi, and Flask for remote sensing and actuation. *Stack: Flask, Python, Arduino, LoRa.*
- Badge Express System**
Autonomous badge dispensing machine integrating STM32 and Arduino for automated user identification. *Stack: STM32, Arduino, RAMPS 1.5.*
- ESSE Lab Website**
Multilingual dynamic website for ESSE Lab to showcase research, publications, and events. *Stack: WordPress, Elementor, ACF.*
- ConvoZoom (Freelance)**
AI-powered real-estate platform that automates lead intake and routes prospects via a multilingual assistant and video agent. *Stack: Angular, Node.js.*

TECHNICAL SKILLS

Front-End: WordPress, Angular , Figma

Design: UI/UX Design

Back-End: Node.js, Flask, Python, REST APIs, Firebase

Data & Databases: MySQL, PostgreSQL, Firebase

Embedded Systems: Arduino, STM32, ESP32, Raspberry Pi, SPI/UART/I2C, Real-time control

Tools: GitLab, GitHub, VS Code, STM32CubeMX, Docker, IAR, LabVIEW

LANGUAGES

Arabic (Native), English (B2), French (B2)