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

EDUCATION

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

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 (B1), French (B2)