Mousa Gaballah
Full Stack IoT Developer

📍 Cairo, Egypt   —   🪪 Military Status: Postponed

📞 +20-100-128-1593   —   ✉ mousagaballah2000@gmail.com

in Mousa Gaballah   —   🞄 Mousa Gaballah   —   🌐 Portfolio

Summary

Motivated Full Stack IoT Developer and Telecommunications Engineer with expertise in end-to-end IoT systems that bridge smart hardware with scalable software platforms. Experienced in developing embedded firmware, integrating communication protocols, and building cloud-connected backends with real-time web dashboards. Skilled in ESP32-based solutions, MQTT architectures, NodeJS backends, RESTful APIs, and real-time data visualization. Strong background in networking, fog and cloud integration, system monitoring, and data analytics. Delivered secure, scalable, and intelligent IoT solutions across domains such as smart energy, agriculture, and industrial automation.

Education

B.Sc. in Electronics and Electrical Communications Engineering   Expected July 2026

Faculty of Electronic Engineering, Menoufia University

Current Year: Fourth Year   **GPA: 3.11/4.0**

Achievements

Smart Plug Monitor with Energy Analytics   Aug 2025

- Developed ESP32-based smart plug with MQTT for real-time energy monitoring and remote control
- Built NodeJS backend and React dashboard for data visualization   *(ESP32, MQTT, NodeJS, React)*

Smart Agricultural Monitoring System   May 2025

- Built WSN with ESP32-LoRa nodes for soil monitoring and irrigation alerts
- Developed MQTT-Node-RED dashboard for real-time monitoring   *(ESP32, LoRa, MQTT, Node-RED)*

Short-Range Radar System   Dec 2024

- Developed Arduino-based radar system for object distance/angle detection
- Real-time visualization using Processing software   *(Arduino, Embedded C, Processing)*

Web-Based Student Management System   Mar 2024

- Full-stack PHP/MySQL web app with secure CRUD operations
- Responsive interface for student records management   *(PHP, MySQL, HTML5, CSS, JavaScript)*

Experiences

Software Development Trainee – React Frontend Web Developer – DEPI   Nov 2025

- Undergoing a full-stack web development training with focus on React and NodeJS, including a capstone project.
- Developed a real-world web application integrating frontend and backend components as part of the training.

IoT Application Development Trainee – SpimeSenseLabs & ITI   Aug 2025

- Completed a 60-hour IoT training covering value chain concepts and practical application development.
- Built IoT solutions on the MasterOfThings platform using Wi-Fi, BLE, and SigFox devices.

IoT Applications Trainee – NTI   Jul 2025

- Trained on end-to-end IoT systems including sensors, microcontrollers, cloud connectivity, and Python programming.
- Completed 120-hour hands-on labs covering fog computing, business use-cases, and full IoT solution development.

Data Analytics – Microsoft Power BI Trainee – DEPI   Oct 2024 – Feb 2025

- Executed the full data analytics pipeline: extraction, cleaning, modeling, and visualization using Microsoft Power BI and DAX.
- Developed interactive dashboards with automated refresh, integrating Azure services and external data sources.

Summer Intern – Systel Telecom   Cairo, Sep 2024

- Gained practical knowledge of telecommunications, microwave communication, and CCTV systems.
- Participated in hands-on workshops on fiber optics and broadband communication.

Skills

- **Embedded Systems & Firmware:** ESP32, Arduino, PIC16F877A, Embedded C, MikroC, Servo Motor Control, Sensor & Actuator Interfacing, Application-level Programming

- **IoT Protocols & Networking:** MQTT, HTTP, BLE, Wi-Fi, LoRa, SigFox, IoT over IP Networks

- **Front-end Development:** HTML5, CSS, JavaScript, TypeScript, React, Responsive UI Design, Real-time Dashboard Interfaces, API Integration

- **Back-end Development & Cloud:** NodeJS, PHP, C#, Java, SQL, Docker, Kubernetes, Cloud Integration, Fog Computing, Remote Management, Server-side Analytics

- **IoT System Design:** End-to-End IoT Solutions, Sensor & Actuator Integration, Microcontroller Interfacing, Application Development using MasterOfThings Platform, Third-party API Integration

- **Data Analytics & AI Basics:** Power BI (DAX, Dashboards), Tableau, Data Cleaning, Statistical Analysis, Data Modeling, Machine Learning Basics, Actionable Insights Generation

- **Tools, Simulation & PCB Design:** MATLAB, Simulink, Node-RED, Blynk, ThingsBoard, Processing, Proteus, EasyEDA, Jupyter Notebook, Google Data Studio

- **General Skills:** Problem Solving, Teamwork & Leadership, Time Management, Data Governance

Courses & Certifications

- **Internet of Things (IoT) Applications**
  NTI   2025
- **IoT Value Chain Components**
  Mahara Tech   2025
- **IoT Application Development using MasterOfThings Platform**
  Mahara Tech   2025
- **Mobile IoT Applications (Indoor & Outdoor Positioning)**
  Mahara Tech   2025
- **Developing Custom Events & Plugins on MOT Platform**
  Mahara Tech   2025
- **Hands-On Training on IoT Devices**
  Mahara Tech   2025
- **IoT Application Development**
  SpimeSenseLabs & ITI   Aug 2025
- **Data Analytics Microsoft Power BI**
  DEPI   Feb 2025
- **Startup Project Development**
  ITIDA   2024
- **Computer Network Fundamentals**
  Mahara Tech   2024
- **Introduction to Network Security**
  Mahara Tech   2024
- **Telecommunications & Public Safety**
  Mahara Tech   2024
- **Python Programming Basics**
  Mahara Tech   2024
- **Summer Internship – Systel Telecom**
  Cairo   Sep 2024

Languages

Arabic: Native   **English:** Intermediate (B1)