Youssef Goher
System Developer

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Summary

Freshly graduated as a Junior Embedded & IoT System Engineer. Highly motivated Electronics & Communication Engineering graduate with a strong technical background and a passion for embedded systems and C++ development. Seeking a challenging position to apply my skills and contribute to innovative projects.

Education

Higher Technological Institute 10th of Ramadan.

Bachelor's Degree in Electronics & Communication Engineering with a GPA of 3.91/4.

Aug, 2018 - Feb, 2023

Technical Skills

C, C++, Python, Micro Python, Rust, Flutter, Testing, Dart, OOP, RESTful API, firebase, MATLAB, FreeRTOS, Git, GitHub, Linux Administration, AI, ESP, ARM, AVR, Automotive, Angular, Html

Soft Skills

Collaboration, Problem-solving, Communication, Time management, Result-oriented

Additional Skills

Public Speaking, Writing, Research

Languages

English, Arabic

Certifications

- Certified Embedded Systems Professional - ITI Embedded Systems Track
- Certified OOP Embedded Developer (O'Reilly)
- Certified Rust Developer (O'Reilly)
- Certified Flutter Developer (O'Reilly)

Work Experience

Information Technology Institute (ITI)   Jul, 2023 - Present
Embedded System Instructor

The Information Technology Institute (ITI) is a top training institute in Egypt, offering programs in software engineering, embedded systems, and AI. ITI provides hands-on learning to prepare students for the tech industry.

- Delivered comprehensive lectures and hands-on sessions on C programming and various aspects of embedded systems design and development.
- Guided students in interfacing with AVR and ARM-based microcontrollers, covering key topics like automotive communication protocols (CAN, LIN, UART, SPI), and RTOS (Real-Time Operating Systems) concepts.
- Conducted practical sessions on ARM architecture, RCC, DIO, NVIC, EXTI, DMA, and peripherals such as LED Matrix and TFT screens.
- Introduced students to real-time operating system (RTOS) concepts, focusing on scheduling mechanisms, and explained how they are applied in the context of embedded systems.
- Taught Python programming and Linux administration, emphasizing their use in embedded systems.
- Introduced students to Raspberry Pi and embedded Linux, providing foundational knowledge in IoT and web-based solutions.
- Led workshops on advanced automotive technologies, including CAN Bus, CAN FD, and AUTOSAR.
- Delivered sessions on debugging, flashing, hex parsing, and bootloader development.

EgySpark   Jun, 2023 - Present
Software Developer

EgySpark develops hardware and software solutions for the market, focusing on innovative technologies to meet industry needs.

- Developed a diverse array of innovative hardware and software solutions, integrating AI, web, mobile, and embedded systems to address market demands.
- Collaborated with cross-functional teams, including design, engineering, and project management, to conceptualize, design, and implement cutting-edge solutions.
- Focused on optimizing system performance and enhancing user experience by integrating AI technologies for intelligent decision-making and automation.
- Conducted thorough testing and validation of hardware and software components to ensure reliability, scalability, and adherence to industry standards.
- Engaged in continuous learning and adaptation of emerging technologies to stay ahead of industry trends and improve existing systems.

Projects

Virtual IOT Lab
May, 2024 - Jun, 2024

https://youssefgoher.github.io/Virtual-IOT-Lab/

Creating a simulation tool for the ESP8266 Wi-Fi module

- Developed a simulation tool utilizing Proteus, Python, and com0com to emulate Internet of Things (IoT) scenarios.
- Focused on Firmware Over-The-Air (FOTA) updates to streamline remote firmware management and enhance device functionality.
- Created a user-friendly environment that facilitated hands-on learning for students without hardware resources.

Harmony App
Oct, 2023 - Nov, 2023

https://youssefgoher.github.io/Harmony/

Conceptualized, designed, and developed the Harmony mobile application to enhance mental health support by connecting patients with their doctors.

- Developed a secure Login and Signup System for patients and doctors, ensuring data privacy.
- Created and managed the Self-Regulation and Management (SRM) section, enabling doctor-controlled patient activities and progress tracking.
- Engineered a GPT-3.5-based Chatbot for 24/7 patient communication, providing tailored mental health support.
- Implemented a Mood Measurement functionality, allowing users to effectively track mood fluctuations.
- Developed a Daily Report feature for detailed insights into patient progress and activities.
- Designed Mood Charts to visualize emotional trends over time for both patients and doctors.
- Pioneered a Stability Chart for doctors to assess patient stability using numerical mood data.
- Integrated Fitbit API to extract vital health metrics such as sleep hours, heart rate, and more for comprehensive patient analysis.
- Managed and implemented Firebase backend for seamless functionality and real-time updates.

Online Labs with FOTA Implementation
Jul, 2023 - Aug, 2023

https://youssefgoher.github.io/Online-Labs/

Created a flexible Online Lab platform for embedded systems, enabling remote firmware updates and seamless user interaction through a Python-based GUI.

- Developed an Online Lab platform for embedded systems with Firmware Over-The-Air (FOTA) integration.
- Implemented FOTA using ESP32 and STM32F401CC microcontroller for remote firmware updates.
- Designed a Graphical User Interface (GUI) in Python with Tkinter for easy firmware update initiation and monitoring.
- Hosted the platform on FreeWHA for remote management of firmware updates.
- Ensured secure update processes with bootloader integration and checksum validation.