Youssef Ahmed

Junior Embedded Software Engineer

Phone: +201097201165 **Email:** youssef.ahmed.dev@gmail.com
Address: New Cairo, Egypt **LinkedIn:** https://www.linkedin.com/in/dev-youssef-ahmed/

Summary:

Embedded Software Engineer passionate about innovation and proficient in C programming. Experienced in developing software for embedded systems, adept at proactive problem-solving for efficient solutions. Eager to contribute to cutting-edge projects and collaborate with talented teams.

Experience:

Freelance Math Instructor ***2021 – Dec 2023***

Remote Position. Abu Dhabi, United Arab Emirates

- Customizing lesson plans to suit diverse learning styles, fostering adaptable problem-solving approaches.
- Utilizing online platforms for virtual teaching, refining digital collaboration and project management skills while simplifying complex mathematical concepts.

Courses:

Advanced Embedded Systems Diploma ***Apr 2024 – Present***

Edges for Training: Mohamed Tarek. Cairo, Egypt

- Completing ARM Architecture course focusing on Cortex M3/M4.
- Hands-on experience with TM4C Microcontroller peripherals.
- Mastering efficient C programming for ARM processors.
- Understanding AUTOSAR software design principles and device drivers skills including error reporting.
- AUTOSAR C implementation and adhering to MISRA-2004 standards.
- Familiarizing with automotive buses like LIN and CAN protocols.
- Understanding in RTOS fundamentals, including FreeRTOS.
- Thorough training in Automotive Functional Safety, including ASIL determination and ISO26262 standards.

Embedded Testing Diploma ***2024 – Present***

Edges for Training: Muaz Nasser Eldeen. Cairo, Egypt

- Apply ISTQB Foundation Level principles for robust testing in embedded software development.
- Execute Agile testing methodologies to enhance quality in embedded systems, aligned with ISTQB Agile standards.
- Utilize fundamental testing concepts to optimize testing processes for embedded systems.
- Develop and execute unit testing strategies to ensure reliability in embedded software components.
- Conduct integration testing for seamless interaction among embedded system components.
- Validate embedded software functionality through rigorous testing procedures.
- Employ general testing techniques for quality assurance in embedded software solutions.

Standard Embedded Systems Diploma ***Nov 2023 – Mar 2024***

Edges for Training: Mohamed Tarek. Cairo, Egypt

- Implementing Basic Concepts of Embedded Systems and C Programming actively.
- Active engagement with Data Structures such as Linked-List, Stack, and Queue.
- Actively utilizing C for Embedded Applications (Embedded C).
- Hands-on experience with AVR Microcontrollers Interfacing, actively implementing all drivers.
- Actively exploring the Basics of Real-Time Operating Systems (RTOS).

Raspberry Pi Basic Applications ***Jul 2018***

Jelecom Egypt, Cairo, Egypt

- Familiarizing with Raspbian OS and getting hands-on with Python scripts.

Matlab Programming Basic Applications ***Jul 2018***

Jelecom Egypt, Cairo, Egypt

- Fundamentals of Matlab programming, Simulink, and GUI generation.

Analog and Digital Electronics Basic Applications ***Jul 2017***

Jelecom Egypt, Cairo, Egypt

- Introduction to electronic circuits design, simulation, and measurement tools.

Projects:

Door Locker Security System (AVR ATmega32) ***Mar 2024***

- Developing a system to unlock a door using a password.
- Drivers: GPIO, Keypad, LCD, Timer, UART, I2C, EEPROM, Buzzer and DC Motor.

Distance Measuring System (AVR ATmega32) ***Feb 2024***

- Developing a system that measure the distance and display it on LCD.
- Drivers: GPIO, ICU, Ultrasonic Sensor and LCD.

Fan Speed Controller with Temperature System (AVR ATmega32) ***Jan 2024***

- Developing a system that controls the speed of a fan depending on the temperature.
- Drivers: GPIO, ADC, PWM, LM35 Sensor, LCD and DC-Motor.

Stop-Watch System (AVR ATmega32) ***Dec 2023***

- Developing a system that control the stop-watch time and display it on 7-segments.
- Drivers: GPIO, Timer, External Interrupts and 7-Segement.

Cancer Theranostic using Near Infrared Laser and Nanoparticles (Arduino) ***Jul 2019***

- Applying physics fundamentals to diagnose and treat cancerous cells. Automated using Arduino.

Stairs-Climber Wheelchair Reviving and Enhancing (Arduino) ***Aug 2018***

- Bring back an obsolete wheelchair to be utilizable, as well as adding advanced controllers.

IEEE ROBOBOND007 Competition (Arduino) ***Jul 2017***

- Implementing an Arduino-controlled car-shaped robot to do the given command.

Education:

Master's Degree in Systems and Biomedical Engineering (Incomplete) ***Oct 2021 – Mar 2023***

Cairo University. Giza, Egypt

- Completed coursework with a GPA of 3.4; omitted thesis due to career shift to Embedded Systems Engineering.

Bachelor's Degree in Systems and Biomedical Engineering ***Sep 2015 – Aug 2020***

The Higher Institute of Engineering – El Shrouk Academy. Cairo, Egypt

- Graduated with a Very Good grade for the final academic year and a Good cumulative grade upon graduation.

Technical Skills:

Programming Skills: Embedded C, Python, Matlab, C++, and basic knowledge in VHDL & Verilog.
Peripheral Interfaces: GPIO, ADC, PWM, and Timers, specifically on AVR, Arduino, and Raspberry Pi.
Communication Protocols: UART, SPI, and I2C. **Miscellaneous:** Outlook, Microsoft Office, and GitHub.

Languages:

Arabic: Native speaker. **English:** Advanced.

Additional Information:

Military Status: Exempted.

All references are available upon request