

Youssef Ahmed

Junior Embedded Software Engineer

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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

Sep 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.
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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.
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Embedded Testing Diploma

Mar 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.
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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).
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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

Jeilecom Egypt, Cairo, Egypt

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

Analog and Digital Electronics Basic Applications

Jul 2017

Jeilecom Egypt, Cairo, Egypt

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

Projects:

Door Locker Security Systems (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 (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 (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-Segment.

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 and Microsoft Office.

Languages:

Arabic: Native speaker.

English: Advanced.

Additional Information:

Military Status: Exempted.

All references are available upon request