Mahmoud Abdel-Raouf Mahmoud

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Objective

Seeking a job in Embedded Systems field as a junior embedded software engineer where I can employ my technical skills and knowledge. **Education**

National Telecommunication Institute Professional Training Program (NTI).   July. 2022 Sep. 2022
Embedded Systems Developer Track:

- Microcontroller Architecture and Interfacing with ARM Cortex-M4 (120-HR).
- Microcontroller Architecture and Interfacing with AVR Module (120-HR).
- C and Embedded C Programming Module (120-HR).

Microcontroller Interfacing with ARM Cortex— National Telecommunication Institute (NTI)   Sep.2022

- ARM Architecture and Programming Model.
- STM32 GPIO driver.
- Direct Memory Access (DMA).
- SysTick Timer Driver.
- Reset and clock control (RCC).
- Nested Vector Interrupt Controller (NVIC).

Microcontroller Interfacing with AVR— National Telecommunication Institute (NTI)   Aug.2022

- General Purpose Input Output (GPIO).
- Interrupts and Interrupt Types.
- Timers (Timer0 - Timer1 - Timer2).
- Communication protocols (UART – SPI – I2C).
- EEPROM Applications and creating its driver.
- Implement advanced I/O concepts.
- Watchdog Timer.
- Hardware Abstraction Layer Drivers (LCDKeypad-Temperature sensor -seven segmentLed-Push Button

C and Embedded C programming — National Telecommunication Institute (NTI)   July.2022

- C Programming.
- C for Embedded Applications (Embedded C).
- Algorithms (Searching Algorithm – Sorting Algorithm).
- Basic Concepts of Embedded Systems.
- Data Structures (Linked-List, Stack and Queue).

Technical Skills

- Solid Knowledge in C programming language.
- Good Knowledge in Data Structure and Algorithms.
- Strong knowledge in Embedded C.
- Very good understanding of embedded systems concepts and its layered architecture.
- Very good interfacing skills with AVR and ARM-Cortex M microcontrollers.
- Very good knowledge in communication protocols (UART - SPI – I2C).
- Good knowledge in automotive communication protocols (CAN – LIN – Flex Ray).
- Good knowledge of real time operating system (RTOS).
- Standard software guidelines: MISRA-C.
- Familiar with Python programming language
- Familiar with C++ programming language

Developer Tools: STM Cube IDE, Eclipse IDE, notepad++, Keil uvision, Visual Studio C/C++, MATLAB, Simulink, Proteus, Multisim, Cadence, VS Code.

Projects

- **Vehicle system with collision warning assistance (STM32F401 ARM-based MCU):**
- Uses Ultrasonic to detect the distance, control Air condition by using motor, Control front lights, Automatic Car back lights and temperature sensor to check car performance.
- **Smart Home Project using AVR.**
- Using ATMEGA32 microcontroller with I2C, keypad, LEDs, Temperature sensor, and DC Motor and EEPROM.
- **Smart Door lock system using AVR.**
- Using AVR ATMEGA32 microcontroller interfaced with DC motor and Piezoelectric sensor.
- **Stopwatch Timer using AVR.**
- **Motor speed control using PWM and potentiometer on AVR.**
- **Library Management system using data structure and Advanced C programming.**
- **Arithmetic and Logical Unit Design Project (Using VHDL and Cadence Circuit design).**
- **Arduino Project: RC firefighting Robot Car.**
- **Programing project (c++): Matrices calculator.**

Extra-Curricular Activities

- Sector Head __ Semi;colon   Sep.2022

Languages

English: Full Professional Proficiency   Arabic: Native language.

Personal Skills

- Seek personal growth and development.
- Communicate clearly and concisely.
- Good Speaker Presentation Skills.
- Extremely dedicated.
- Generate fresh ideas.

- Absorb new knowledge.
- International mindset.
- Strongly motivated to achieve optimal results.

References

- References are Available upon request.