Karim Badreldin Abbas Youssef

Mobile: (+966) 504755918
Email: karimyoussef_1998@hotmail.com
Address: Prince Bander St. cross 27th St.

Objective

An ambitious fresh graduate mechatronics engineer, interested in the field of Robotics, Embedded Systems, Automation, Automotive and Mechanical engineering.
Seeking a full-time / Internship job position in a leading company to leverage my knowledge and technical skills into practice, achieve more progress and success, make significant contributions and add expertise to my career.

Education

Al-Majd International School (KSA) – IGCSE
International General Certificate of Secondary Education (2014 – 2016)
Grade: 98.89%
Helwan University – Faculty of Engineering
BSc. Mechatronics Department (2016 – 2021)
Cumulative Grade: Very Good (80%)
Rank: 6th
Elective Courses:

- Embedded Systems Diploma under Supervision of Engineer Mohamed Tarek
- AUTOSAR Software Design based on ARM Cortex–M under Supervision of Engineer Mohamed Tarek

Graduation Project

- Title: Smart Pharmacy Machine
- Description: The project aims to help patients and doctors to order medicine according to written prescription through our website where the orders are saved on a database. This project is made up of three divisions: mechanical design, IoT and Embedded Software. Designing and Implementation of the machine had been done on SOLIDWORKS. Implementation of the website and connectivity to the control case had been done by the IoT team using firebase, Microsoft Visual studio and ESP-32. The control case had been implemented based on 2 AVR Atmega32 microcontrollers one "Dispense" responsible of the dispensing router and for user interfacing using LCD and keypad to set the machine at how many cell units (configured when machine is installed or upgraded) and the second microcontroller "Store" responsible of the storing router. Full layered Architecture model has been applied to the software.
  Drivers Designed and Implemented for Project: UART, ICU, SPI, Timer, PWM, External interrupts, LCD and Keypad.
- Bsc project supervisor: Prof. Abdel Halim Bassiuny

Projects

- +10 Mini-projects implemented in college
- +10 Projects designed and implemented using **LabVIEW** graphical programming
- +10 Classic Control Projects designed and implemented using **Electrical Control Techniques Simulator**
- **Password Based Security Door Lock** based on 2 ATmega16 microcontrollers one "HMI" for user interfacing using LCD and keypad and the second microcontroller for storing data in the external M24C16 EEPROM controlling the DC motor and the Buzzer used for the alarm.
  Drivers Designed and Implemented for Project: Timer, PWM, I^2C, UART, Watchdog, LCD, Keypad
- **Stopwatch** based on ATmega16 microcontroller and six 7-segments connected to microcontroller using only 10 GPIO pins "4 pins to 7-segment and 6 pins for 6 transistors for selection". Moreover, using 3 buttons for stop, resume and reset options.
  Drivers Designed and Implemented for Project: Timer, External Interrupt

- **Speed Control of Stepper motor using Potentiometer** based on ATmega16 microcontroller connected to an LCD to display the input value read from the potentiometer through an ADC channel. A PWM signal is generated and sent to the motor based on the input value. A button is also connected that raises an interrupt to change the rotational direction of the motor.

Professional Experience

Internships

Al – Mulhim Auto Services Holding Co. Ltd. (Khobar, Saudi Arabia) June 2019 – September 2019

- Automotive Engineer
  Diagnoses and identifies the malfunctions & the technical errors in the car and test it if necessary, before proceeding with maintenance.

The Arab Contractors (Cairo, Egypt) September 2020

- Heavy Equipment Engineer
  Diesel engine overhaul workshop, Hydraulic workshop, Heavy equipment workshop.

TIEC – Innove Egypt training program (Cairo, Egypt) November 2020

- Training program in the area of innovation and entrepreneurship
  Programs consisted of three main modules which aimed to: Introduce the basic knowledge of innovation and tech management, ability to generate innovative ideas, address real challenges with a structured brainstorming technique, develop entrepreneurial skills.

Technical Skills

- **Software:**
  - Python Programming Basics
  - C# Basics
  - LabVIEW
  - EKTS (Electrical Control Techniques Simulator)
- **Embedded Systems:**
  - Fundamentals of Embedded Systems
  - C programming
  - Data Structures (Linked-List, Stack and Queue)
  - AVR Microcontrollers Interfacing (Implemented all drivers)
    External Interrupt – Timer – ICU – PWM – ADC – SPI – UART – I^2C – External EEPROM – keypad – LCD
  - C for Embedded Applications (Embedded C)
  - Real Time Operating System (RTOS)
  - Software Engineering
  - Embedded Tools (AVR visual studio Debugging)
  - HW labs
- **AUTOSAR Device Drivers:**
  - AUTOSAR Layered Architecture.
  - AUTOSAR Device Drivers.
  - AUTOSAR and C MISRA Rules.
  - Automotive buses LIN and CAN.
  - Implement Dio and Port AUTOSAR Driver for Tiva – C Target.
  - Final project to apply the full Layered Architecture Model.
- **Simulation Tools:**
  - AVR Visual Studio
  - Visual Studio
  - Proteus

Skills

Language: Very good in speaking and writing English

Computer: Microsoft Office (Word – PowerPoint – Excel – Access – Teams – Outlook)

Personal Skills: Accurate – Adaptable – Analyzing – Confident – Presentation Skills – Reliable – Responsible – Initiative – Innovative – Hard working – Self learner

Technical Skills: troubleshooting – Multitasking – Dealing with Microcontrollers Datasheets – read and understand Schematics – Develop low level drivers – Documentation and writing skills

Activities

Micro Student Activity Feb 2018 – Feb 2019

- Public Relation and Academic volunteer
  PR member: build Micro's brand and spread its message which is "providing information and courses to students more easily with better quality to fill the gap between the college studies and work field" and encouraging students to join us.
  Academic member: providing the students with study materials (lectures and courses) and explaining the contents to the younger students.

Personal Information

- Date of Birth: 22, July 1998
- Gender: Male
- Nationality: Egyptian
- Military Status: Postponed
- Valid Iqama