AHMED HASSAN

Embedded Software Engineer.

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PROFILE

Computer and Systems Engineering Graduate interested in Embedded Systems and designing robust software & hardware systems to solve a variety of problems in different fields such as Automotive and Smart Homes.

EDUCATION

2016-2021 **Fayoum University**

Faculty of Engineering

Bachelor in Computer and Systems Engineering with overall grade Good.

INTERESTS

- **Embedded Systems.**

  Building robust embedded systems using microcontrollers like AVR, PIC and STM with the help of RTOS.

- **Android Development.**

  Building mobile applications to integrate with the embedded systems using Android Native and Flutter Cross Platform.

SKILLS

- **Programming Languages.**
  C, C++, Java, Kotlin, Python and Dart.
- **Microcontrollers Interfacing.**
  AVR, STM, TIVA-C and PIC.
- **Sensors Interfacing.**
  PIR, IR, Ultrasonic and more.
- **Communication Protocols.**
  SPI, I2C, UART, CAN, LIN, USB.
- **IOT.**
  NodeMCU Board (ESP8266).
- **RTOS.**
  FreeRTOS and building simple Scheduler based on Time Triggered Embedded Systems.
- Simulation and Practical hardware projects implementation.
- Mobile Applications Development with Flutter Cross Platform.
- AUTOSAR Layered Architecture.

PROJECTS

- **OS Scheduler (GitHub).**

  OS Scheduler built to be used in STM32 Microcontroller.

- **MIPS Single Cycle Processor (GitHub).**

  Implementation of Single Cycle MIPS Processor in System Verilog.

- **Morse Code Translator (GitHub).**

  A translator based on (ATmega32, Touch Sensor) can receive the code from the user via the touch sensor. The device converts the entered code into text that is displayed on the screen. Conversely, the user can enter text using (4*3 Keypad), such as the old phone, and the device will translate it to Morse Code using LEDs and Buzzer.

- **Digital Multimeter (GitHub).**

  Auto range Digital Multimeter based on (ATmega32) which has Ohmmeter measures from 5 Ohms to 3 Mega Ohms, DC Ammeter measures from 5 mA to 2 A, AC Ammeter measures from 5 mA to 50 A, DC Voltmeter measures from 5 mV to 55 V and AC Voltmeter measures from 5 V to 1000 V.

- **Electric Water Heater (GitHub).**

  Electric water heater based on (PIC, and PICGenios Board).

- **Hardware Calculator (GitHub).**

  Hardware calculator based on (ATmega32).

- **Mobile-Controlled Robot (GitHub).**

  Mobile controlled robot that can be controlled using mobile application and it can avoid obstacles using Ultrasonic Sensor and NodeMCU based on (ATmega32).