Omar Mahmoud

E-mail: masri.omarm@gmail.com Phone: +201022053006
LinkedIn: linkedin.com/in/masriomarm GitHub: github.com/masriomarm

- Knowledge in Embedded systems concepts and Microcontrollers architectures & peripherals
- Real time operating systems understanding
- Knowledge of design patterns & State machine design and development logic
- Knowledge of software engineering development methodology

Work Experience

Design Engineer | DezignArena **August 2021 – Present**

- Engineered embedded software development, debugging & troubleshooting of bare-metal applications for 3 projects.
- Delivered 2 low-level drivers based on I2C, SPI, USART for different sensors and micro-controllers in C.
- Optimized a design, saving 20% of the actuators required, internal components space, driver circuitry space on the PCB and reducing Firmware complexity.

Design Engineer | iHub: Innovation Hub **March 2020 – July 2021**

- Directed mechatronics design and integration of subsystems for 3 projects.
- Restructured a design, cutting 30% of development effort and increased output accuracy to match a Fluke gas analyzer.

Design Engineer | BEEC **August 2018 – March 2020**

- Designed consumer electronics products enclosure of 3 projects.
- Extracted PCB boundaries, connectors placement for HW team for around 5 PCBs.

Projects:

Tracker unit project **Dec 2021 – April 2022**

A device that sends location and time data over LTE. The device runs on STM32F401, ARM Cortex-M4 core.

- Delivered low-level drivers in C for an I2C battery monitor sensor & SPI flash memory IC.
- Implemented a strategy pattern to switch modes of operation.

Laboratory device **April 2021 – Nov 2021**

A device that semi-automates a lab test based on the client's research paper.

- Directed mechatronics design and integration.
- Optimized design to save about 20% of the actuators in a project, thus, saving internal space, driver circuitry space on the PCB and reducing Firmware complexity.

Ventilator project **March 2020 – April 2021**

An invasive type ventilator prototype. The device is based on the AVR core.

- Directed sensors and actuators selection.
- Restructured the pneumatic circuit actuators to cut 30% of development effort.
- Calibrated flowmeters, oxygen sensors & pressure sensors with reference to Fluke gas analyzer.

Skills

- **Programming Languages**: C, Embedded C, C++, Rust, Python.
- **Software**: GNU/Linux, Ubuntu, Git, Vim, QEMU, CMake, GNU Make.
- **Hardware**: STM32, ARM Cortex-M4, ARM Cortex-M3, AVR

Education

Assiut University **September 2013 – June 2018**
B.Sc. in Mechatronics Engineering. **Cumulative Grade: Very Good, 2nd Top.**

Graduation project **Grade: Distinct**
Low cost robotic gloves for people with disabilities based on Arduino Uno.

Personal info

Cairo, Egypt | Military service: completed | Birthdate: Dec 1995 | Graduated in 2018