

Kerollos Emad Sobhey *Embedded SW Engineer*

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📄 Summary

I am an enthusiastic, self-motivated, reliable, responsible and hardworking Embedded software engineer. Seeking a challenging position in the field to contribute to the progress and development process of the corporation.

🎓 Education

Faculty of Engineering, Alexandria University,
BSc of Electrical Engineering

2017 – Expected Jun–2022 | Alexandria, Egypt

Major: Electronics and Electrical communication.

Graduation Project: Vehicle-2-Everything

🧠 Technical Skills

C/C++ programming language

for Embedded Systems development. ● ● ● ● ●

Embedded Software Architecture

MCAL, HAL, Service Layer, APP layer ● ● ● ● ●

Software Drivers

Implementation and Design for peripherals, sensors and modules ● ● ● ● ●

Communication protocols

USART, I2C, SPI, USB. ● ● ● ● ●

Tooling

Bootloader, Startup code. ● ● ● ● ●

Basic Knowledge of AUTOSAR

BSW (MCAL, ECUAL, Service, CDD) ● ● ● ● ●

Microcontroller Architecture

based on AVR and ARM ● ● ● ● ●

Data Structure and Algorithms

● ● ● ● ●

Interfacing using GPIO, ADC, Timers/Counters.

using different modes of operation. ● ● ● ● ●

Automotive Communication protocol

CAN. ● ● ● ● ●

Real Time Operating Systems

Free-RTOS. ● ● ● ● ●

Reading Datasheet

and Related Docs, User manuals, and User references. ● ● ● ● ●

🔧 Tools

STM32CubeIDE | Eclipse

Atmel Studio (Debugging AVR microcontroller.) | Proteus

Jira (Scum) | GitHub

❤️ Personal Skills

Self-learning | Team working | Problem Solving

Communication Skills | Planning and organization Skills

Agile (Scrum)

👛 Professional Experience

07/2019 – present **CADCAM Technician, Alex Dental Lab** [↗](#)

- Part-time work.
- Trained for one month on the CAD/CAM system using Roland Modela MDX-50. [↗](#)
- Designed +3000 artificial dental models using the exocad [↗](#) SW tool and increased production of the lab approximately by 15% by the end of 2021.

🤝 Volunteering Work

09/2017 – present **Church Servant, Archangel Raphael and St. Mary church**

- Instructed junior grad students on some religious and social topics.
- Discussed some social and soft skills topics.
- Planned and Organised the "Remontada" conference for senior grad students.

📖 Courses

02/2022 **Agile Intro, IBM Digital - Nation Africa** [↗](#)

02/2022 **Internet Of Things Intro, IBM Digital-Nation Africa** [↗](#)

07/2021 – 12/2021 **Embedded Systems Diploma, IMT School**

👤 Personal Information

Military Status, *Exempted*












Marital Status, *Single*

🌐 Languages

Arabic
Mother tongue

English
Fluent

Projects

- 10/2021 – present **Vehicle-2-Everything, (V2X)(graduation project) (in progress)** 
- Surveyed the V2X standards and introduced the model to the team.
 - Led the Embedded system sub-team.
 - Guided the team to work with Scrum Agile methodology using Jira  website and undertook the Scrum master.
 - Searched the CAN protocol ,classic AUTOSAR and Boot-loader.
 - Implemented CAN controller driver of MCP2515  and STM32F103C8.
 - Implemented Boot-loader of STM32F103C8.
- 05/2022 – present **POV display**
- Implemented SW Driver for Timer/Counter 0-1 of ATmega32. 
 - Implemented SW Driver for Hall effect sensor.
- 02/2022 **Mobile Controlled Smart Home, IOT project.**
- Designed and implemented the Android App using MIT App Inventor.
 - Design the model of the system.
 - Formulated the Docs of the project using Microsoft office tools.
- 12/2021 **Mines Detector Robot**
- Implemented SW driver for UART communication protocol for STM32F103C8.
 - Implemented SW driver for GSM SIM900.
 - Implemented SW driver for GPS Neo-6M Module.
- 03/2022 **Advertising Banner with Automated slider, (IoT based project)** 
- Designed and Implemented Software driver for TB6600  micro-step driver.
 - Designed SW driver for HC05  Bluetooth module and Implemented API's to configure it using AT-Commands.
 - Designed and Implemented the Application software of system.
 - Designed and developed Android Mobile application for controlling using MIT App inventor.
- 10/2021 **DC motor dashboard, (Stepper, Servo and DC motor)** 
- Designed the Hardware driver of the DC motor using the H-bridge concept.
 - Surveyed the Stepper and Servo motors datasheets.
 - Designed the HAL driver of each motor in the dashboard.
 - Implemented the Application software of the dashboard.
 - Interfaced LCD, Servo, Stepper, DC motor and keypad with ATMEGA32.
- 09/2021 **Clinic Management application, Desktop App** 
- Searched how a linked list data structure work using the C programming language.
 - Designed the application Architecture and modulated its components.
 - Implemented using C language.
- 05/2019 – 06/2019 **16 Bit-TTL-Processor** 
- Developed on Ben Eater's 8-bit breadboard Computer  to be a 16-bit computer with more functionality in the ALU and CPU core.
 - Designed the ALU and added MUL and DIV circuit
 - Designed the CPU on Proteus and simulate its functionalities.
 - Implemented the hardware circuit of the RAM unit and Accumulator register.