Ahmed Ragab Shenhab

Alexandria, Egypt
Mobile: **+201067455931**
Email: ahmedshenhap@gmail.com
Military Service: Exempted

EDUCATION

- B.Sc. of Engineering (Communication and Electronics Dept.), Alexandria University.
- Graduated in June 2018 with Grade Very good with honors (82.63%).
- Graduation Project: Artificial Vision, Excellent Grade.

EXPERIANCES

- **Founder of RoboticsWare (January 2020)**

  RoboticsWare is a Robotics Academy that is focused in learning how to design Robots from scratch.

  Educational curriculum of RoboticsWare:

  Introduction:(What is Robotics and Robot, History of Robots, Three Laws of Robotics, Types of Robots, Robots Uses).

  Robotics Hardware Design:(Electronics for Robot, Robotics Logic Design, PCB Design and Fabrication, Robotics Sensors, Robotics Power Management).

  Robotics Mechanical Design:(Types of Robot Motions, Robotics Kinematics (Forward & Inverse), Robotics Actuators, 2D and 3D Modeling and prototyping of the robot using SolidWorks Program, Robotics Mechanisms).

  Robotics Software Design:(C Programming Language, Robot Programming using Arduino, Interfacing Sensors and Actuators with Arduino).

  Projects and achievements:
  - Metal Detection Robot.
  - Line Follower Robot without Microcontroller.
  - Remotely Controlled Robot.
  - Training about 25 students until now in 40 hours, those students are able to design any Robot they want.

- **Research Assistant: Egyptian Japan University of Science and Technology (E-JUST)**

  July 2018 to Present

  IOT based Infection Protection system
  - Design a new system that used in hospitals to provide a protection for patients from the Infectious Diseases.
  - The system mainly based on indoor localization using BLE (Bluetooth Low Energy), RSSI (Received Signal Strength Indicator), and IBEACON technologies.
  - Improving the RSSI reading by changing the antenna design of the used hardware(ESP32).

- **Trainee: Valeo "CDV Team"**

  August 2017 to October 2017
  - Create a Graphical User Interface application to make full setup and initialization of (R-CAR-M3) ECU board.

- Then, make the same task via Tera Term program. By writing a script using Tera Term Language.
- Finally, make a batch file to run the script and full setup of the board in one click.

TRAINING COURSE

- **Embedded Automotive and AUTOSAR Device Drivers Course under supervision of Engineer Mohamed Tarek:**
  - AUTOSAR Layered Architecture.
  - AUTOSAR Device Drivers.
  - C Misra Rules.
  - Automotive buses Lin and Can.
  - Implement Dio AUTOSAR Driver.
  - Implement Port AUTOSAR Driver
  - Final project to apply the full layered architecture model.

- **SWIFTACT, Embedded system bootcamp**
  - Device Driver (How to write generic and portable drivers).
  - Embedded Software testing (Specification based and Structured based testing).
  - Embedded Software System Design (Static and Dynamic Software design).
  - Time Triggered operating system.
  - Final Project (Industrial Vacuum Cleaner).

PROJECTS:

Gradation project: (Artificial Vision)

- A wearable device to help blind people as their guide to provide a brief voice description for the current scene through an embedded unit hanged with a camera module and a cloud for computation.

Practical projects:

- **Health monitoring Bracelet**
  - A wearable bracelet that based on some sensors such as Heart rate, gyroscope, accelerometer and temperature sensor to monitor the patient state then send the results to a dedicated server.
- **IOT based Smart Dispenser**
  - A stationary device that used to identify the user who used it by reading the RSSI values that broadcasted from the user's TAG ID.
  - The dispenser contains some sensors and indicators to force the user to follow a certain scenario of using.

TECHNICAL SKILLS

- **Programming Skills:**
  Strong Knowledge of C/Embedded C Programming Language.
  Good Knowledge of C++ Programming Language (OOP Concept).

Good Knowledge of Data Structure.
Knowledge in Tera Term Language (Scripting Language).

- **Interfacing:**
  Implementing various device drivers: GPIO, Interrupts, Timers, ADC, Keypads, LEDs, Switches, PWM, LCDs, Seven Segment Displays, and some sensors like: Gyroscope, Accelerometer, magnetometer, temperature, and heartrate sensor.
  (Some of these drivers are **Generic Drivers**).
  Serial Communication Protocols: UART, SPI, I2C, BLE (Bluetooth Low Energy).
- **Hardware Skills:**
  Strong Knowledge of PCB design and electronics analysis.
  Strong Knowledge of Electronic Component Soldering with Surface mount technology.
  Strong Knowledge of Mechanical Design (Solid works designer).
- **Robotics:**
  Knowledge of Robotics field.
  Knowledge of Robotics Kinematics, Robotics Joints & links and Degrees of Freedom
  Knowledge of Robotics Mechanical Design.
- **Software System Design.**
- **Software Testing.**
- **Machine learning.**
- **Microcontrollers:** (AVR, ESP32).