

# Ibrahim Rizq

# Abd-Elhaleem

## EDUCATION

BSc in computer science  
Assuit University | 2019 – 2023  
GPA: 3.07 (Very Good)  
Graduated in 2023

## COURSES

- **Embedded system diploma (Ahmed Abd-Elghafar):**
  - C programming language.
  - Data structure and algorithms.
  - Microcontrollers and Microcontrollers interfacing
  - Controller area network (CAN) protocol and local interconnect network (LIN) protocol
  - Introduction to AUTOSAR and MISRA C rules.
- **Practicing using pic18f46k20: [modules implementation](#)**
  - Building drivers for GPIO, Interrupts, ADC, CCP and timers
  - Implementing communication protocols like EUSART, SPI and I2C
  - Microcontroller interfacing by building drivers for led, Relay, motor, LCD, 7-segment, keypad, EEPROM.

## PROJECTS:

- **UNI Application (Graduation Project)**

The primary purpose of this project was to streamline social media management within the college community and facilitate seamless communication between students and teaching staff. A notable feature of the Uni Application was its integration with a hardware device, enabling the collection of attendance data during lectures using QR code technology. [Student app](#) [admin app](#) [hardware code](#)

**Technology used:** android Kotlin, ESP8266, Embedded C++, MVVM.
- **Autonomous Agricultural Robots for Precision Farming**

Developed a pair of autonomous robots for agricultural applications as a STEM school graduation project. The system comprises two Robots: Action Robot:  
Equipped with a robotic arm for targeted tasks such as harvesting and removal of unhealthy plants. Integrated growing system for precise seed placement at optimal distances. Water pump and tank for irrigation.

Sensing Robot:  
Navigates the field autonomously to assess crop conditions.  
Robot sensors methane gas, temperature, color, soil moisture, and rain.  
Every employ an LCD display for real-time monitoring. [Images](#) [Video](#)
- **Human Robotic Arm:**

A robotic arm manufactured using laser cutter and 3D printer.  
It is based on Arduino and its main purpose is to simulate the motion of the human arm by using MPU 5060 sensor.  
This sensor has an accelerometer which measures the acceleration of the body attached to and a gyro which measure the angel of the sensor rotation. The arm is moved by using servo motors. [Video](#)
- **NASA Car Robot:**

Robot car measures and monitor some data like soil moisture, methane gas and temperature. The robot is controlled via Bluetooth connected to a smart phone. The main purpose of the robot is to be used to discover the nature of the soil in mars. This project awarded as the third place on the Assuit NASA space apps compaction. [Images](#)
- [Other embedded projects](#)

## SKILLS

- **Embedded:**  
Embedded C and C++ programming  
Microcontrollers infrastructure  
Basics of RTOS  
Communication protocols:  
CAN, LIN, SPI, I2C, UART  
Automotive Software architecture:  
basics of AUTOSAR
  - **Programing languages:**  
C, C++, C#, Java, Python, Kotlin
  - **Programing skills:**  
OOP  
Problem Solving  
Algorithms  
Data Structure  
Testing and Validation  
software architectures
  - **Version Control:**  
Git/GitHub
- **English: (Excellent).**
  - **Arabic: (native language)**

## LANGUAGE

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Address: 6th of October, Giza, Egypt  
GitHub: <https://github.com/ibrahimrizq87>

## EXPERIENCE

**Full-Stack PHP trainee**  
ITI | Jun 2024— present

**Full-time ICT teacher**  
**SCIS Smart City International School** | Feb 2024— Jun 2024  
Teaching students from different countries (Italy, Egypt, USA, Canda ...etc.) how to use computer and some programming basics.

**Part-time computer science instructor**  
**Ischool** | Dec 2023— present  
Teaching student all around Egypt basics of computer science through online and offline sessions in a project called DEMI, sponsored by the ministry of communications and information technology in Egypt.

**Electronics & robotics instructor**  
Techno stem City | 2019—Sep 2023  
I have trained and supervised students aged 10 to 16 years old in various technology disciplines.  
Notably, I have prepared and supported students for robotics and game design competitions, including:

- The African Forum for Innovation and Technology event at Zayed University in Dubai. Through my role, I have empowered students with valuable skills and fostered their passion for technology.
- FLL competition [Certificate](#) - MakeX competition held in: [Assuit](#) [Qena](#)
- Code expert competition held in Qena [Certificate](#)
- Robotourney competition held in Cairo International Stadium [Certificate](#)

## COMPETITIONS AND AWARDS

- **HULT PRIZE competition at Assuit University.** [Participation](#) Dec - 2020
- **Fundamentals of research writing from AUC (American University at Cairo)** [Completed course](#) Jul – 2019
- **Participated in the 8th Egypt Robot Olympiad** [Participation](#) Aug – 2019
- **NASA space APPs Assuit** [Awarded third](#) Oct – 2018  
[Awarded fourth](#) Oct – 2019
- **Participated in (WRC) Walking Robot Competition help in Zewail City of science and Technology.** [Participation](#) Sep – 2018
- **Participated in ELbahson Elshbab help by Egyptian Knowledge bank.** [Participation](#) Sep – 2018
- **Innovation 7th day held by IEEE MUSB** [Awarded as First place](#) Apr – 2018
- **Participated in Egypt Science & Engineering Fair held in Hurghada** [Participation](#) Feb – 2018
- **Participated in ISEF International Science and Engineering Fair (finalist).** Participated in [2017](#) [2018](#) [2019](#)

## VOLUNTEERING AND STUDENT ACTIVITIES

- **Head android team DSC** 2021  
We made an online android course using kotlin
- **Android team member GDSC 2022**  
We made 2 info sessions about android and offline sessions for kotlin concepts.
- **Head IT at TEDx Minia University** 2022  
We made an event hosting more than 5 speakers and 200 person I managed to organize the registration system using Qr code and designing forms registration and sending data.
- **Trainer in Arduino course at STEM Assuit School** 2018  
24 hours course about basics of electric circuits and Arduino. [Certificate](#)
- **Trainer in Arduino course at STEM Assuit School** 2019  
16 hours course about electronics, coding, and micro-controllers. [Certificate](#)
- **OC at WRO competition by Ideas Gym** 2019  
Organizing and look after kids participated in the WRO competition held by ideas Gym. [Certificate](#)