Muhammad Hassan Muhammad Ahmed

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Electrical Engineering Department, Faculty of Engineering, Assiut University, Asyut, Egypt

RESEARCH INTERESTS

Internet of Things, Cryptography and Embedded systems security.

EDUCATION

11/2020 – 07/2023

M.Sc. in Electrical Engineering (Embedded systems and IoT)
Electrical Engineering Department, Faculty of Engineering, Assiut University, Assiut, Egypt.
Courses studied:

- Computer Interfacing Circuits
- Medical Imaging
- Image and Video Coding
- Basics of Cognitive Radio
- Pattern Recognition
- Digital System Design Using Verilog

Thesis title: **Vibration Based Structural Health Monitoring System using Internet of Things Technology.**

09/2013 – 07/2018

B.Sc. degree in Electrical Engineering **(Electronics and communication)**
Electrical Engineering Department, Faculty of Engineering, Assiut University, Assiut, Egypt.
Average GPA: (**3.9/4**) | *Project grade:* **Excellent**. | *Rank:* **1st** | *Graduate Date:* **July 2018**
***Project title:* Smart Farming System using Wireless Sensor Networks.**

- This project aimed to build Wireless Sensor Networks (WSN) as an application in Precision Agriculture (PA) to collect real-time information of temperature, moisture, and PH of farm soil combined with farm weather information. These information help farmers increase the crop yield, save fertilizers, reduce irrigation water use, and save part of the energy required to pump the water.

WORK EXPERIENCE

06/2020 – Now

Electrical Engineering Department, Faculty of Engineering, Assiut University, Asyut, Egypt.
Research & Teaching Assistant
Courses taught:

- Basic Electronics
- Electric Circuits
- Embedded System Design
- Digital Circuit Design
- Microprocessors

06/2020 – 12/2022

Embedded system and IoT Engineer in a Smart Internet of Things based Monitoring System for Critical Infrastructure Project (This work was supported by the Science, Technology, and Innovation Funding Authority (STIFA), Egypt).

01/2021 – 12/2021

Embedded system and IoT Engineer in a Smart Monitoring System for Distribution Power Grids Project (This work was supported by the Egyptian National Telecommunication Regulatory Authority (NTRA)).

10/2021 – 10/2023

Embedded system and IoT Engineer in a Road Condition Assessment using Internet of Things Technology Project (This work was supported by the Science, Technology, and Innovation Funding Authority (STIFA), Egypt).

TRAINING

21/7/2016 – *10/8/2016*	El-Wlidya Power Plant *Assiut, Egypt*
05/9/2017 – 14/9/2017	LG Electronics Company *Cairo, Egypt*
01*8/2018 – 18/8/2018*	CMOS Analog IC Design *Assiut, Egypt*

SKILLS

- Programming using C++, C, Python and MATLAB.
- Designing electronic circuits.
- Simulation by using Multisim, Proteus, Eagle CAD and MATLAB
- Embedded system using PIC, AVR and STM32 Boards.
- Programming FPGA by using VHDL or Verilog.
- Computer maintenance (Software, Hardware).
- Self-Learning.
- working in a team and making a good presentation of my ideas.

LANGUAGES:

- Arabic: Native.
- English: Good (Writing & Speaking).

ACTIVITIES

2015/2017	Leader in Electrical Engineering Club, Faculty of Engineering.
	Working on the organizing committee at Assiut Robotics Lab.

PUPLICATIONS (Google scholar account)

- Hassan, M., Nassr, A., Mohammed, U. S., & AbdelRaheem, M. (2021, December). "An IoT based Structural Health Monitoring System for Critical Infrastructures ". In 2021 IEEE Global Conference on Artificial Intelligence and Internet of Things (GCAIoT) (pp. 130-135). IEEE.

- M. AbdelRaheem, M. Hassan and H. Selim, "A Lightweight Sampling Time Error Correction Technique for Micro Phasor Measurement Units," in IEEE Transactions on Instrumentation and Measurement, vol. 71, pp. 1-8, 2022, Art no. 9004408, doi: 10.1109/TIM.2022.3179009.

- M. AbdelRaheem, M. Hassan, U. S. Mohammed, and A. A. Nassr, "Design and implementation of a synchronized iot-based structural health monitoring system," Internet of Things, vol. 20, p. 100639, 2022.

REFERENCES

Prof. Usama S Mohammed, Professor
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Electrical Engineering Department, Assiut University, Asyut, Egypt.
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