

ALAA HASHEM HAGAG

Systems and Biomedical Engineer

@ Alaa.hashem.hagag@gmail.com
github.com/alaahagag

(+20)1012099291

Giza, Egypt

in linkedin.com/in/alaahagag-a53796166/

EDUCATION

Bachelor in Systems and Biomedical Engineering

September 2015 – June 2020

GPA:3.5

SKILLS

- Front-End development : HTML/HTML5, CSS/CSS3, JavaScript, jQuery, JSON AJAX Data.
- Programming: C++,C,Java
- Development Ecosystem : Cmake and GitHub.
- Embedded system : Arduino, working with several sensors using 8051 kit.
- GUI toolkit : QT designer-PYQT5
- Technical Development : Python, matlab
- Data Based Development: SQL .
- Personal skills: Presentation skills, team work, self learning ,flexibility ,and hardworker.

EXPERIENCE AND ACTIVITIES

Medical Device Sales Representative at Elfagr for medical supplies

November 2020

Clinical Engineer at EL agouza Hospital

2019

Biomedical Engineering Careers in the Egyptian Market (BECEM18)

April 2018

Sales Engineer at International biomedical group

April 2018

PROJECTS

Epileptic Seizure Monitoring System (Graduation project)

The System is composed of two complementary systems proposed as a solution to help epileptic patients:

- The system is composed of two main parts. Its first Part, is related to Al- Kasr ElAini hospital where an electronic patient record is created. This part contains a huge data base of the epileptic patients. Its Second Part is an openly accessed part where it adds knowledge, improves awareness to everyone about epilepsy and informs the users with the details of the doctors and the hospitals/clinics that are available to help.
- Secondly, through a mobile application system that enhances the quality of life they are living .

MRI Pulse Sequence simulator

- Software simulation for the MRI techniques for some preparations and acquisitions as getting (T1 or T2) weighted image.
- The tools used: Python-GUI with QT Designer

Indoor localization system

- A small chip can be attached to human individual or a machine in order to track it throughout movements inside a well-defined building on either mob app or website or a desktop app .
- The tool used are: ESP chip and Arduino, Flutter framework and Real-time firebase Database .

Finding DNA mutations in humans

- detect the abnormal DNA mutations which might be harmful, affect a person's characteristics and suspects the presence of diseases.
- The used algorithm: Burrows Wheeler Algorithm.
- Tool: C++

Realtime Digital Filter designer

- processing on discrete-time signal to reduce or enhance certain aspects of that signal by using fourier transform.
- Tools : Matlab

Lee Silverman Voice Treatment (LSVT) system

- System collects the dataset, extract some features from the data to encode the information, by Training the classifier (naive bayes the classifier which I used) the system can decide on a new patient data whether his/her voice is acceptable or not.
- Tools : Python

Alzheimer's smart house

- Smart house used for patients who suffer from Alzheimer,The house is supplied with many options that makes the patients's family feels more safe about their patient
- Tools : Arduino - Temperature sensors-Pressure sensors-Smoke sensors.

ECG Interface Circuit Design

- Designing ECG circuit to monitor patient's electric cardio signal
- Tools : Amplifiers ,Capcitores

Elevator Simulation System

- Elevator system which can stop at any floor and pick up the transported thing .it has a limited weight ,if the weight exceeds there will be an alarm.
- Tools : 8051 Kit and sensors.