# Ahmed Mohammed Amer

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## Objective

Enthusiastic, results-oriented and hard working Software engineer. Working on different projects helped me to adopt to the changes quickly and made me a mature team worker. I am able to work well both in a team environment as well as using own initiative. I am able to work well under pressure and adhere to agreed deadlines.

## Relevant Skills

`Python` `HTML` `CSS` `Tailwind` `JavaScript` `Docker` `Flutter`
`React` `Astro` `C++` `Linux` `Git` `FastAPI` `SQLAlchemy` `FetchAPI`
`Image Processing` `Machine Learning`

## Education

**Ain Shams University**                                                                                                   **Cairo**
**Bachelor Degree in Communication Engineering**                                                     **June 2023**

## Graduation Project

This project revolved around creating smart solution that would improve the campus by utilizing Internet of things. I implemented a system that can automatically register the student for attendance without the need to waist time or disturbing lectures

**Image Processing (Facial Recognition)**
- Detecting the faces in a given image using openCV and the HOG algorithm
- Extracting feature from submitted images using an OpenFace pertained model

**Frontend Application Using REACT**
- Student need to upload images that would be used for the facial recognition machine learning model by OpenFace
- Creating a dashboard for the users to view the attendance for each lecture and overall attendance rate
- Creating protected routes for login users and spical routes for admins

**Backend Server Using FastAPI**
- Design a backend that could handel the various request that is submitted by the user
- Manage users login and signup request using Json Web Tokens for authorization
- Create middleware to process the images and store the identifying feature for each user
- Create routes for the lecture hall cameras to send the images of the attended student and use middleware to find the faces in the images and recognize them then updating the database for the attendees

**Deployment Docker and Vercel**
- Vercel is used for the frontend application with modification because this project use react-router instead of the folder base routing of NextJS
- Docker container is used for the backend server and hosted on railway, docker allows to configure the environment and install necessary system dependencies that is required fro the face recognition and OpenCV to work as intended

## Leadership

**Student Representative**
- Student Representative for 80 students where I help facilitate the communication between the teaching staff and the students and helped organize for multiple events

**ASU Racing Team**
- Media Team member with 100% project completion rate
- Render and design formula-1 Car
- Design Banner, rollup and Social media posts

## Work Experiance

### Systel (Motorola)                                                    Smart Village
  – Design an access point system with the aim of connecting remote areas to a central tower Using Link Planer to figure out the obstacles in the way of the master-slaves, then log on the device to make basic configuration and give an IP address
  – Understand the infrastructure of the two way systems and the design requirement according to the environment and the terrain, work on the electronics and the configuration or programming of the walkie talkie
  – Install Optic fiber cables, make connection using fusion technique and pig tails,and test using laser and power meter. Understand how to decide the appropriate cable to use according to requirements
  – Aligning the microwaves for a clear line of sight point to point (antennas panning), then Use link planner for performance by checking for noise interference and find the clearest frequency. Understand Different Radio Link Mode Layout
  – Design and configure surveyance systems by setting up switches, cameras, NVR or DVR, then setting up a control room with a monitor to display the camera feed. Understand the concept of PoE power over Ip

### National Telecommunication Institute                              Smart Village
  – Create deploy and manage Virtual Machines across clusters of Hosts
  – Create storage system for the virtual machines
  – Create security group and administrative level for managing the virtual machine
  – Used KVM, CNA and Linux

## Projects

### Social Media App (Instagram Clone)
Designed a social media app that is inspired by Instagram. The App include authentication and a real time data base using server less cloud technologies

### Recipe App (World Wide Recipe)
Web App that displays most recent recipes from an API with multiple views using react as a framework for state management and pure css for styling

### Photo Search App
This App that uses pixabay API to search images based on keywords that the user inputs, once the images are retrieved the images are displayed on your screen.

### Covid-19 (Virus) Simulator
This project aims to simulate virus spreed among a group of people in different zones. The zones limit the spread of the virus because of lower number of sick in each zone

### News Summary App
News app that uses Next JS to utilize server side rendering that includes fetch the date and rendering the html page then pushing it to the client

### Runner/Mario Video Game
Developed a 2D Mario Like game with character and enemies with complex enemy generation and check for objects collision with each other

## Programming Skills

  – Proficient in Unix/Linux environment and Bash scripting.
  – Proficient Languages (C++, Python , Matlab, HTML, CSS, JavaScript, Dart )
  – Frameworks (Flutter, React, Flask, Next JS)
  – Proficient in GIT version control
  – Working Knowledge of databases (MySQL)
  – Object Oriented Programming
  – Great Documentation Skills