

# Mustafa Abdallah Mohamed

Backend Engineer | Python/Django/Flask/PostgreSQL | TypeScript/Node.js/Express.js/MongoDB

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<https://mstva.github.io>

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## Experience

### Backend Engineer - Medicore Medical Services - Dublin, Ireland

*Jan. 2021 to March 2022*

Medicore Medical Services ([www.medicore.ie](http://www.medicore.ie)) is an ambulance service where the hospitals call them to provide an ambulance to transfer a patient from the incident place to the hospital. They built CrewTech to connect the manager with the ambulance's crew. CrewTech is a dashboard for managers to add calls and forms, and an Android app for the crew to see the calls and forms they need to fill.

It was only me in the software engineering team working directly with the manager! Where I worked on refactoring the old code, adding new features, and fixing some bugs. Worked on the app with Android/Kotlin, on the backend API with Python/Django and the frontend dashboard with TypeScript/React.js.

For the backend API, here is what I did:

- Refactored the backend API that was written with Python, Django and PostgreSQL.
  - Added new features and made the code reusable, and reliable with the MVC architecture.
  - Developed a device manager to make admin manage registered devices.
  - Built a form builder and connected it to the backend API.
  - Deployed the backend API on Heroku for testing and Digital Ocean for production use.
  - Organizing the work with Agile, Jira, Git and GitHub.
  - Integrated the Backend API to their React Dashboard and Android App.
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### Backend Engineer - Itesyl Technologies - Nairobi, Kenya

*Apr. 2021 to Feb. 2022*

Itesyl Technologies (<https://itesyl.com>) is a company that develops business banking solutions, they build Kodeec to connect the real state with e-banking by connecting landlords and apartment owners with tenants and banks.

Our team was two people building the Kodeec project, my job was working on adding new features to the backend API with Flask/Python, building a mobile app with Flutter/Dart and building a WhatsApp chatbot using Node.js/TypeScript.

For the backend API, here is what I did:

- Added new features to a backend API written with Flask and PostgreSQL.
- Used Twilio and local SMS providers to send SMS to users.
- Built a Fingerprint and PIN Authentication system with a two-factor feature.
- Generated PDF files and sent Emails to users based on user filters.
- Tested and documented the API using Postman.
- Organized the work with Agile, Jira, Git and GitHub.
- Deployed the backend API on Heroku for testing.
- Integrated the API to their mobile application that was built with Flutter.

## Education

### B.S. Computer Engineering - Minia University - Minya, Egypt

Sept. 2015 to Aug. 2020

Minia University is a local university in Egypt that serves students from the Minia government, I was studying in the faculty of engineering and specialized in the computers and systems engineering department. After five years of studying, we ended up with a graduation project, and mine was called “Hafyz”.

Hafyz is a smart Android assistant app for Alzheimer's disease patients! We worked as a team of five students where we needed to develop this application using Android and Java, the app has three main features: face recognition for helping patients recognize people who forgot them, a location tracker for tracking patients' locations in case they are lost and a personal assistant for answering patients' questions.

My part was working on the face recognition feature and here is what I did:

- Wrote and analyzed the requirements document, to generate use cases and user stories.
- Designed the user interface with consideration of Computer-Human Interaction guidelines.
- Built a face recognition system with the face\_recognition library which has a 99.38% accuracy.
- Developed the backend REST API using Flask which hosted the face recognition system.
- Deployed the Flask server on Heroku which led to reducing the time of testing.
- Implemented the frontend in Android Studio using Java with the support of Camera & Gallery.
- Organized the development process with Agile/Scrum and version control with Git & GitHub.
- Led the team with distributing the tasks and following up on the progress of building the app.

The project code is on GitHub at [github.com/mstva/Hafyz](https://github.com/mstva/Hafyz) and as a demo at [vimeo.com/456017663](https://vimeo.com/456017663)

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## Skills

Python	Heroku	Design Patterns
Django	Digital Ocean	API Integration
Flask	Git	RESTful API
PostgreSQL	GitHub	Linux/macOS
TypeScript	Agile	Docker
Node.js	Jira	Java
Express.js	Postman	Kotlin
MongoDB	Firebase	MySQL

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## Projects

### Design Patterns - <https://github.com/mstva/DesignPatterns>

Implementation of some of the design patterns mentioned in the “Head First Design Patterns” book using C++, Java, Kotlin, JavaScript, Python and Ruby.

### SovirApp - <https://github.com/mstva/SovirApp>

An eCommerce app using React Native for the frontend and Node.js & MongoDB for the backend.

## Volunteering

### **Social Media Marketing Specialist - IEEE Minia University**

*Nov. 2017 to April 2018*

IEEE Minia University is a student branch at the Minia University at the faculty of engineering, under the name of the global organization IEEE, where volunteers organize competitions, workshops and events for inspiring people about technology, business and creativity!

I volunteered in the social media team, and our team consisted of three people, we worked together to create content and publish news, events and competitions about the branch, my job was creating content, managing the social media channels and covering the events during it happens.

During my volunteering, I worked on multiple projects at IEEE MU and here is what I did:

- Created the event description of “Hot Wheels, " a competition for Robots.
  - Covered the “Problem Solving Competition” event which was a programming competition.
  - Planned and created the event “Line Follower 2018” which was a competition for Robots to follow a line.
  - Worked as a content creator and covered their big event with my team called “Innovation Day7” it was three days event in the seventh year of its creation, where a lot of speakers, competitions and workshops come together in one place to talk about technology, business, and creativity to inspire students!
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