Mustafa Abdallah Mohamed

mustafa.abdulluh@gmail.com || https://linkedin.com/in/mustafaabdulluh || https://github.com/mstva

---

Experience

Backend Engineer at GigUp | Berlin, Germany *Sep. 2022 to Dec. 2022*

I successfully implemented a robust production pipeline for a Django-based project. Here's what I accomplished:

- Containerized using Docker and docker-compose for dev, staging, and production environments.
- Optimized the Django project settings to enhance performance and stability in different environments.
- Deployed to Linode, utilizing resources such as database, remote server, and object storage effectively.
- Simplified infrastructure management through the use of Terraform.
- Streamlined testing and deployment with CI/CD automation using CircleCI.

Backend Engineer at Soundwav.io | *Toronto, Canada* *May. 2022 to Aug. 2022*

Soundwav is a Canadian startup revolutionizing the music industry with its real-time collaboration platform for musicians and producers to work together seamlessly.

As a developer, I was part of a three-person team including a founder and UX designer. I was tasked with building the MVP and implementing the Figma designs as a live dashboard. I utilized Python, Django, and PostgreSQL for the backend, and TypeScript/React.js for the frontend.

My responsibilities for the backend API included:

- Developing the API using Python, Django, and PostgreSQL.
- Deploying the API on Heroku for testing.
- Tracking code changes with Git and GitHub.
- Managing the project using Agile methodologies and Jira.
- Building the frontend dashboard with TypeScript, React.js, and Redux.

In my effort to enhance my skills, I furthered my work on the backend API, which involved:

- Adopting Poetry as the dependency and package manager instead of requirements.txt files.
- Implementing a test-driven development process with Pytest unit tests.
- Containerizing the backend using Docker and Docker Compose.
- Deploying to Google Cloud Platform (GCP) and utilizing services such as Google Cloud Compute Engine, Storage, SQL (PostgreSQL), and Container Registry.
- Creating the infrastructure with Terraform.
- Automating deployment and testing with Jenkins.

Code: https://gitfront.io/r/mstva/jZSLiEJGvfd9/soundwav

Backend Engineer at Medicore Medical Services | *Dublin, Ireland* *Jan. 2021 to May. 2022*

Medicore Medical Services offers ambulance services for hospital patient transfers. To streamline operations, they developed CrewTech, a platform connecting managers and ambulance crew. The platform includes a manager dashboard for adding calls and forms, and a mobile app for the crew to view their assignments and complete necessary forms.

As the sole software engineer, I collaborated closely with the manager to upgrade the codebase, introduce new features, and resolve bugs. I utilized Android/Kotlin for the app, Python/Django for the backend API, and TypeScript/React.js for the frontend dashboard.

I overhauled the backend API utilizing Python, Django and PostgreSQL and accomplished the following tasks:

- Refactored the code to increase its reliability and reusability with the MVC architecture.
- Designed a device manager for the administrator to regulate registered devices.
- Constructed a form builder and integrated it with the backend API.
- Deployed the API on Heroku for testing and Digital Ocean for production deployment.
- Adhered to Agile methodology and utilized Jira for project management.
- Maintained version control using Git and GitHub.

In my effort to enhance my skills, I furthered my work on the backend API, which involved:

- Implemented the use of Poetry as the dependency and package manager for more efficient management.
- Adopted a Test-Driven Development approach and wrote unit tests using Pytest.
- Containerized the backend using Docker and Docker Compose for easier deployment.
- Deployed the API to Amazon Web Services (AWS) utilizing services such as EC2, RDS, S3, and ECR.
- Automated infrastructure management with Terraform.
- Streamlined deployment and testing processes through integration with CircleCI.

Code: https://gitfront.io/r/mstva/DVb6QkdE8umR/crewteech

I developed the frontend and focused on creating a seamless user experience. Here's what I accomplished:

- Implemented the frontend using TypeScript and React.js, providing a responsive user interface.
- Managed the state with Redux, ensuring efficient data management and reducing redundant code.
- Designed the user interface with Chakra UI, resulting in a visually appealing and user-friendly experience.
- Utilized React Router for routing and navigation, providing a seamless flow for the users.
- Connected the frontend with the backend REST API using Axios, allowing for seamless data exchange.
- Tested the frontend on Heroku, ensuring it was functioning as expected before deployment.

For the Android app, I executed the following:

- Refactored an outdated Android app from Java to modern Kotlin and implemented MVVM architecture.
- Used Jetpack Compose for creating a seamless, responsive and user-friendly interface.
- Implemented robust and efficient API handling with Retrofit and Kotlin Coroutines.
- Enabled offline functionality with local data persistence via Android Room Database.
- Incorporated Firebase Cloud Messaging for reliable and timely notification services.

Backend Engineer at Itesyl Technologies | *Nairobi, Kenya* *Apr. 2021 to Feb. 2022*

Itesyl Technologies is a firm that specializes in creating innovative business banking solutions. They have developed Kodeec, a platform that bridges the gap between real estate and e-banking, connecting landlords and property owners with tenants and financial institutions.

Our two-person team was responsible for developing the Kodeec project. I was tasked with enhancing the backend API using Flask and Python, constructing a mobile application with Flutter and Dart, and creating a WhatsApp chatbot utilizing Node.js and TypeScript.

For the backend API, here's what I accomplished:

- Implemented new features utilizing Flask and PostgreSQL.
- Designed and integrated a user authentication system with biometric and two-factor verification.
- Designed and executed user notification features utilizing Twilio and local SMS providers.
- Created and sent dynamic PDFs and emails to users based on user-specified filters.
- Documented and tested API functionality using Postman.
- Deployed the backend API to Heroku for testing purposes.
- Managed project progress using Agile methodologies and Jira.
- Tracked code changes and collaborated with the team using Git and GitHub.

In my effort to enhance my skills, I furthered my work on the backend API, which involved:

- Implemented Poetry as the dependency and package manager, replacing requirements.txt files.
- Adopted a Test-driven development approach, writing unit tests with Pytest.
- Containerized the backend using Docker and Docker Compose.
- Deployed to Azure, utilizing resources including VNet, Virtual Machine, Database for PostgreSQL, Blob Storage, and ACR.
- Wrote infrastructure using Terraform.
- Automated deployment and testing with GitHub Actions.

Code: https://gitfront.io/r/mstva/yJfq225m9vAN/kodeec

For the chatbot part, here's what I accomplished:

- Developed a WhatsApp chatbot using TypeScript and Node.js.
- Created and configured a Twilio-powered WhatsApp number.
- Implemented DialogFlow for natural language processing.

For the Flutter app, here's what I accomplished:

- Developed a mobile app from scratch using Flutter and Dart.
- Implemented GetX for managing the state and building a navigational system.
- Incorporated Dio for network requests and API integration.
- Built a notifications system using Firebase Cloud Messaging.
- Enhanced location and mapping capabilities with the integration of Google Maps API.

Projects

Creditor

- Django Backend API with DigitalOcean Infrastructure which is written with Terraform.
- With CircleCI as the CI/CD and Docker and Docker Compose for the containerisation.
- Code: https://gitfront.io/r/mstva/E49jALoHqkxK/creditor

Serculate

- A serverless backend API built with AWS CDK and TypeScript.
- Code https://gitfront.io/r/mstva/yYiwzEvWk1xr/serculatee

Formbull

- A serverless backend API built with AWS CDK and Python.
- Code https://gitfront.io/r/mstva/eCLeqVGuhhEB/formbull

Tufulat

- A serverless backend API built with AWS CDK and Golang.
- Code https://gitfront.io/r/mstva/szYWtXB8WFV4/tufulat

SovirApp

- An eCommerce app using React Native with Node.js & MongoDB backend.
- Code: https://github.com/mstva/SovirApp

Design Patterns Implementation

- Implementation of some of the design patterns mentioned in the “Head First Design Patterns” book.
- With multiple programming languages like C++, Java, Kotlin, JavaScript, Python and Ruby.
- Code: https://github.com/mstva/DesignPatterns

Skills

Programming	DevOps	Cloud & Serverless	Software Engineering
Python Django Flask PostgreSQL MySQL TypeScript Node.js Express.js MongoDB Java Kotlin	Terraform Docker Docker Compose CircleCI GitHub Actions Jenkins Git & GitHub Agile & Jira	AWS Azure GCP Digital Ocean Heroku AWS CDK AWS Lambda AWS API Gateway AWS DynamoDB	OOP Design Patterns Algorithms Data Structures API Integration RESTful API Linux/macOS Bash Scripting Postman

Education

B.Sc. in Computer Engineering - Minia University | *Minya, Egypt* *Sept. 2015 to Aug. 2020*

As a student at Minia University in Egypt, I had the privilege of studying in the esteemed Faculty of Engineering, with a focus on Computer and Systems Engineering. During my five years of academic pursuits, I had the opportunity to showcase my skills and knowledge through a final graduation project, entitled “Hafyz”.

Hafyz is a smart Android app for Alzheimer's patients. Developed by a team of five students, and built using Android and Java, it features face recognition to help patients recognize familiar people, a location tracker for safety, and a personal assistant to answer questions.

My part was working on the face recognition feature, here's what I accomplished:

- Analyzed requirements and crafted use cases/user stories for project success.
- Designed a user-friendly interface in line with Computer-Human Interaction principles.
- Built a high-accuracy face recognition system using the face_recognition library.
- Developed efficient REST API using Flask for hosting a face recognition system.
- Deployed Flask server on Heroku for faster testing and improved performance.
- Created Java-based Android frontend with Camera/Gallery support in Android Studio.
- Organized development with Agile/Scrum and version control through Git/GitHub.
- Led project team, assigned tasks and monitored progress for successful delivery.

Code: https://github.com/mstva/Hafyz | Demo: https://vimeo.com/456017663

Volunteering

Social Media Marketing Specialist - IEEE Minia University | *Minya, Egypt* *Nov. 2017 to April 2018*

IEEE Minia University is a student branch of the global IEEE organization at Minia University's Faculty of Engineering. Led by volunteers, it hosts events, workshops, and competitions to inspire individuals in technology, business, and creativity.

As a volunteer in the social media team at IEEE Minia University, I was part of a three-person group responsible for creating and publishing content about the branch's news, events, and competitions. My role involved creating content, managing social media channels, and covering events as they took place.

During my volunteer work at IEEE Minia University, I contributed to several projects, including:

- Developing the event description for "Hot Wheels," a robotics competition.
- Covering the "Problem-Solving Competition," a programming event.
- Planning and executing "Line Follower 2018," a robotics competition where robots followed a line.
- Working as a content creator and covering the flagship event "Innovation Day 7." This three-day event brought together speakers, competitions, and workshops to inspire students in technology, business, and creativity.