OMAR MUTTAWA

Software Engineer

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EXPERIENCE

Spyras
Software Engineer

📅 July 2020-Present 📍 London, United Kingdom

- Leading the development of Spyras' Android application "Spyras" available on the Playstore. I am the key contributer to this application from its creation to its release after just two months with responsibilities including cross-platform respiratory analytics library integration, BLE integration and firebase integration.
- Imperative to the development of Spyras' iOS application "Spyras" available on the app store. I revamped the 'prototype' application for release and continue to develop new features.
- Working on both the iOS and Android Applications for other partner companies
- I lead Spyras sensors' Clinical accuracy trial with University Hospitals Birmingham where I was responsible for the design of experiments, all software required for acquisition and data analysis.

Sensing Health Technologies
Embedded Software Engineer + WebApp Developer

📅 April-October 2019 📍 London, United Kingdom

- Worked on developing all aspects of the prototype vital sign monitor into a MVP: Embedded Systems , Software Design, Front-End Web-App Development using the MERN stack as well as Advanced Signal Processing and Machine Learning techniques for physiological signal analysis.

PROJECTS

Masters Thesis
- Investigated the use of photoplethysmogram (PPG) signals to aid in the diagnosis of Dengue Patients as well as predicting their severity.
- Gained an in-depth knowledge of physiological signal quality analysis and filtering as well as learning and developing practical experience with using physiological signals to estimate or predict several vital signs.

LifeLine, IoT Vital Sign Monitor
- Developed a low-cost Internet-of-Things (IoT) vital sign monitor with real-time illness prediction which allows doctors to monitor several patients at once from a remote location.
- Elected Group Project Manager and Lead Embedded Systems engineer on the project responsible for the top level design, role delegation, task management as well as physiological signal acquisition, filtering and analysis and IoT integration with our Web App and development of the Graphic User Interface (GUI) on the device.

AsthmAway, IoT Smart Inhaler Spacer
- Developed a smart IOT inhaler spacer that teaches children how to effectively use their inhaler when paired with our Android Application.
- Lead Embedded Systems on the project responsible for the top level design, role delegation and task management as well as breath and TVOC detection on our Android Application.

EDUCATION

Imperial College London
Electrical and Electronic Engineering (MEng) First Class With Honours

📅 2016 – July 2020 📍 London, United Kingdom

- Graduated with first class honours amongst the top of my cohort in Pattern Recognition, Computer Vision , Optimization, Human Centered Robotics, Embedded Systems, Advanced Signal Processing.
- Was the Futsal team captain and won the BUCS league in both 2018-19 and 2019-20.
- 1st and 2nd Year Group Project Leader

International School of London
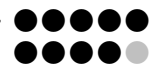**International Baccalaureate, 40 points**

📅 2011–2016 📍 London, United Kingdom

- 7/7 in Physics. HL 6/7 in Maths HL and Economics HL

SKILLS

Kotlin, Swift, Java, Python, C++ ●●●●●
Javascript, React ●●●●○

iOS Full-Stack Development

Android Full-Stack Development

AI for Healthcare   Firebase

Serverless Computing   Node.js

Physiological Signal Analysis

Prototyping

Advanced Signal Processing

LANGUAGES

English (Fluent) ●●●●●
Arabic ●●●●○
French ●●●○○

HONORS & AWARDS

🏆 Achieved a third place prize as part of the 2nd year group project, Braillio: a Electronic Braille Tablet to teach visually impared children to read

🏆 International Global Citizen award for volunteering to teach maths to underprivileged children across Northern India at Nischay schools.