ABDELRAHMAN USAMA GABR ABDOU HABIB

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ABOUT ME

An objective-oriented with practical experience in biomedical engineering, data analysis, image processing, web/app development, AI/ML, technical design, troubleshooting, problem solving, and execution of the solution. Work well under pressure, self-initiative, detail-oriented, and highly motivated to deliver jobs at its best quality and within the deadline.

WORK EXPERIENCE

Part Time Full Stack Engineer

Health Digital Technologies SDN BHD (DoctorOnCall) [01/09/2022 – Current]

1. Collaborate on various platforms development with front-end and back-end knowledge. Applications include marketplace, online pharmacy, dashboards, and (Artificial Intelligence) AI solutions.
2. Gather and address technical and design requirements.

Junior Developer

Health Digital Technologies SDN BHD (DoctorOnCall) [02/2022 – 01/09/2022]

City: Kuala Lumpur

Country: Malaysia

1. Participate in the entire application lifecycle of implementing digital applications from plan, design, build, test, deploy and maintain.
2. Troubleshoot and debug applications.
3. Maintain databases across different platforms.
4. Lead all healthcare AI-related projects.

Biomedical Engineer Intern

King Saud Medical City (KSMC) [05/2019 – 07/2019]

City: Riyadh

Country: Saudi Arabia

1. Acquired knowledge in maintaining and management services of medical devices through performing Planned Preventive Maintenance (PPM).
2. Gained practical experience on various medical devices across different departments (radiation, dialysis, ICU).

AI & Tech Intern

Health Digital Technologies SDN BHD (DoctorOnCall) [06/2020 – 03/2022]

City: Kuala Lumpur

Country: Malaysia

1. Applied Machine Learning (ML) knowledge and experience to develop a world-class winning project for building Machine Learning (ML) classification models to improve healthcare. The project won first place

globally in "UN AI for Good Innovation Factory 2021" and was awarded more than $40,000 USD worth of prizes. Project name - Healthcare AI.
2. Applied Deep Learning (DL) and web development experience to develop a national-level winning project for automating skin lesions classifications. The project won a national award in "Chipta Hackathon 2020" and was awarded a prize of MYR4000. Project name - SPOTT.
3. Accelerated the company development plan and increased the performance by optimizing the codebase and maintaining high performance.
4. Conducted training sessions for the interns and senior team members in artificial intelligence for healthcare applications and different programming languages.
5. Experienced knowledge in designing chatbots, automated testing, Robotic Process Automation (RPA), web development, UI/UX design, system architecture design, different cloud service providers, as well as business and public speaking.

EDUCATION AND TRAINING

MSc in Medical Imaging and Applications
Université de Bourgogne [07/09/2022 – Current]

Address: 71200 Le Creusot (France)

Bachelor of Engineering (Biomedical)
Universiti Teknologi Malaysia (UTM) [2016 – 11/04/2022]

Address: Johor Bahru (Malaysia)
Final grade : 3.91 / 4.00

Awarded the "Dean List" every semester and Bachelor of Engineering (Bio-medical) with Honours.

AI for Healthcare Nanodegree Program
Udacity [04/08/2021 – 10/11/2021]

https://confirm.udacity.com/QCGK5GRP

Gained knowledge and experience about different types of imaging (x-ray, ultrasound, Microscopy, Fundal Imaging, CT, MRI), fundamentals of medical imaging workflows and how machine learning can be used in the flow to optimize the clinical procedure, fundamentals about Picture Archiving, and Communication System (PACS), and different types of imaging algorithms like classification, localization, and segmentation, DICOM networking (DIMSE, DICOMWeb) and anonymization of DICOM datasets, FDA Regulatory process, open-source framework for building modern web-based medical imaging applications (OHIF) and 3D Slicer tool for investigating NIFTI volumes for segmentation.
After a couple of months of training and building innovative solutions to tackle real-world problems using Artificial Intelligence. I've graduated from Udacity's AI for Healthcare Nanodegree Program.

LANGUAGE SKILLS

Mother tongue(s): **Arabic**

Other language(s):

English

LISTENING C1 **READING** C1 **WRITING** B2

SPOKEN PRODUCTION C1 **SPOKEN INTERACTION** C1

DIGITAL SKILLS

My Digital Skills

Programming Languages

Python / MATLAB / C Programming / Java / HTML5 / jQuery / Bootstrap / Vanilla JavaScript / Embedded JavaScript (EJS) / Express.JS / NodeJS / CSS / NextJs

Machine Learning Libraries

Keras / Pandas / Tensorflow / Numpy / Pytorch / Matplotlib / OpenCV / Scikit-Learn / Seaborn

Cloud Services

Google Cloud Platform / Amazon AWS / Heroku Cloud / Firebase

Digital Design and Video Editing

Adobe Photoshop / Adobe After Effect / Adobe Premiere Pro

Others

Solidworks / Client Side Programming / Automated Testing / Websockets / Image Processing / Android Development / Git / WebRTC / Server Side Programming / Robotic Process Automation

HONOURS AND AWARDS

1st Place Global Winner (Prizes valued $40,000 USD)

UN AI for Good Innovation Factory [08/12/2021]

Developed and lead the AI team to the grand finale with my internship project, where we were awarded first place global winner in UN AI for Good Innovation Factory 2021 competition with a grand total of $40,000 USD worth of prizes during my industrial training. The prize includes Web Service (AWS) cloud credits valued at $6,000, software licenses and advisory services from Gorilla Corporation and Tortora Brayda Institute valued at $34,000, and due diligence by REDDS Capital.

https://aiforgood.itu.int/a-win-for-health-ai-for-good-announces-winner-of-the-innovation-factory-grand-finale/

DreamCatcher Best Demo Video Award (3,000 MYR)

DreamCatcher | Innovate Malaysia Design Competition 2021 [08/08/2021]

My final year project was awarded the "Best Demo Video Award" in the Innovate Malaysia Design Competition 2021 national-level competition across all universities' projects submissions.

https://innovate.dreamcatcher.asia/winners2021.html

DreamCatcher 2nd Runner-up AWS Technology Track (1,000 MYR)

DreamCatcher | Innovate Malaysia Design Competition 2021 [08/08/2021]

This award was given after winning the "2nd Runner-Up" position in the Innovate Malaysia Design Competition 2021 national level competition across all universities' projects submission, with my final year research project.

https://innovate.dreamcatcher.asia/winners2021.html

TGL Design Challenge Best Video Award

TheGreatLab | TGL [12/2020]

Awarded the "Best Video Award" in the TGL Design Challange 2020 national level competition across all universities projects submission, with my final year research project.

Chipta 2nd Runner-up Winner (4,000 MYR)

CHIPTA [11/2020]

Awarded 2nd runner-up in CHIPTA competition with one of my industrial training projects, that utilized deep learning for building an image classification model for classifying dermatology images.

PROJECTS

Pneumonia Detection from Chest X-Rays

Developed a binary image classification model using NIH Chest X-ray image dataset to classify 2D chest x-ray for the presence or absence of pneumonia. This project utilized VGG16 convolutional neural network architecture and a transfer learning approach. This project also included performing exploratory data analysis (EDA), and clinical workflow integration by using the trained model and DICOM files for inference. This project was a requirement for graduation from the "AI for Healthcare" nanodegree program.

Hippocampal Volume Quantification in Alzheimer's Progression

Successfully built an end-to-end AI system that features a machine learning algorithm using U-Net architecture to build the segmentation model, which is then integrated into a clinical network to quantify hippocampal volume for Alzheimer's progression. This software can help clinicians perform this task faster and more consistently. This project also included understanding different DICOM networking (DIMSED/DICOMWeb), using a 3D Slicer tool with NIFTI volumes. This project is a requirement for graduation from the "AI for Healthcare" nanodegree program.

Skin Cancer Classification

Successfully built, trained, and deployed a machine learning image classification model using a pre-trained MobileNet model to classify between seven different image classes that represent skin lesion images. The dataset used was the HAM10000 skin dataset and the project was deployed successfully as a service for the public to use as a web application. To make the model accessible on the browser, it was converted using Tensorflow.JS, hosted on AWS S3 bucket, and served on the web.

Healthcare AI: A platform for building, training, and deploying state-of-the-art machine learning classification models with no prior knowledge or coding experience.

Successfully developed an end-to-end web application that provides a service of building machine learning image classification models with no coding required. This project included developing the web application, a machine learning pipeline that handles data processing, model training, and deployment. The Machine learning pipeline automatically detects the type of problem-based on the user dataset (binary or multi-class image classification). This is then followed up by automatically selecting the model architecture which is fine-tuned using a transfer learning approach. Then, the dataset is automatically processed, split, and augmented. Model training starts after the processing is done. The final model is hosted to the user by an API that receives an image and returns the classification.

COMMUNICATION AND INTERPERSONAL SKILLS

UTM Toastmasters - Public Speaking

- Awarded as ''The Most Dynamic Ace' member for 2017/2018.
- Performed roles as speech evaluator, grammarian, table topic master, and hosted meetings.
- Completed my pathway until Innovative Planning 2 (IP2).

VOLUNTEERING

University Volunteering Programs

[2017 – 2022]

1. Volunteered as Head of Multimedia department for both ISS-UTM (International Student Society) and ISS-Egypt in UTM 2018-2019.

2. Volunteered in many programs and projects, with collaborations between different universities and hospitals (HKL), local and international (Indonesia - UniBatam).
3. Planned launching Public Speaking Challenge Cup for 100 primary and secondary school students '' Z-Gen Speakers Public Speaking Challenge ", 6th - 8th May 2018.
4. Arranged among student society an industrial visit to MJIIT & PROTON HICOM Factory, 2019.