Bayan Bayrakdar

Nationality: Syrian **Date of birth:** 01/01/1998 **Gender:** Female **Phone number:** (+20) 1063660697

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Home: 6th october , Giza , (Egypt)

ABOUT ME

As a dedicated biomedical engineer, I am committed to enhancing patient care and pioneering innovative medical devices and diagnostic tools. My expertise includes signal and image processing, PCB design, micro-controllers, and AI models. With strong self-motivation and attention to detail, I aim to drive research and improve healthcare quality.

EDUCATION AND TRAINING

Master of Degree in BioMidical Engineering

Damascus University [2021 – Current]

City: Damascus | **Country:** Syria

Bachelor's Degree, Biomedical Engineering

Damascus University [2015 – 2020]

Address: very Good,

WORK EXPERIENCE

Web Development Trainee

Remotecoders Bootcamp [01/10/2024 – 01/11/2024]

City: Al-Maadi, Cairo | **Country:** Egypt

- Completed a comprehensive course in web development, earning a certificate in "Thinking and Creating with Code."
- Acquired hands-on experience with HTML, CSS, JavaScript, Python, and Flask.
- Developed a doctor booking reservation project as the final project, applying knowledge of full-stack development to create a user-friendly interface with backend functionality for booking management.

Digital Signal Processing & AI Engineer

Pulse for integrated solution GmbH [01/02/2023 – 01/05/2024]

City: Al Doqi, Cairo | **Country:** Egypt

- Design, Develop, and Implementation algorithms in medical signal processing (Filters, FT, DWT,CWT,...) by Matlab, Java
- Diagnosis of diseases of the heart by algorithms and ML by Python Design, Develop, and implementation of machine learning and Deep learning application for ECG by Pytorch, TensorFlow.
- implementation annotator tools for annotation ECG database Collaborated with cross-functional development teams to raise technical standards for ongoing projects.

Technical product specialist

Elemental [01/06/2022 – 01/01/2023]

City: Naser City-Cairo | **Country:** Egypt

- providing technical support to the sales process of an organization
- demonstrate the features and benefits of the product being sold.

Application engineer

Original medical [10/2021 – 04/2022]

City: Damascus | **Country:** Syria

- assessing customer needs, designing and testing software and supporting the sales team with product prototypes and presentations in ultrasound devices
- Optimize applications by integrating new technologies and performing upgrades
- Prepares technical proposals to all devices' brands(GE healthcare, Siemens, Philips, Mindray, Canon)
- prepared presentations about applications uses in ultrasound

Automation engineer
EcoLead [06/2021 – 09/2021]

City: Damascus | **Country:** Syria

- research, design electrical circuit
- Implementation and design PCB on Egale.
- deals with RS232 Series Communication Protocol.
- Communicate with the help of the **IoT**

business coordinator
medical Group Company MGC [01/2021 – 03/2021]

- Coordinated logistics and managed inventory for laboratory devices.
- Assisted in the preparation and maintenance of documentation for laboratory equipment

Trainer programming
Syrian Computer Society [08/2020 – 11/2020]

City: Damascus | **Country:** Syria

- Teaching kids and teens to programming and coding (c++, Scratch)

DIGITAL SKILLS

Electronics: Raspberry pi, Arduino, NodeMCU

Engineering program: AutoCAD, Arena, Eagle, Proteus, Eagle, MIT App Inventor, Blynk.

Programing language: JavaScript,MATLAB, C++, Python, R, Java, html, CSS, scratch.

Library: Flask, Pytorch, tensorflow, keras, Scikit Learn, Scipy, seaborne, tkinter

PROJECTS

Computer vision projects

- **Smart Glasses for the Blind | Python, OpenCV, Deep Learning, Raspberry Pi**
  a. Developed smart glasses using neural networks to recognize faces and convert them to audio output for blind users.
  b. Implemented on Raspberry Pi with Python, OpenCV, and TTS in a Linux environment.
  c. Enhanced user independence by providing real-time face recognition and audio feedback.

- **Brain Tumor Classification | MATLAB, Image Processing Machine Learning**
  a. Designed a system to detect and classify brain tumors in MRI images, leveraging advanced digital image processing techniques and machine learning in MATLAB.
  b. Applied image enhancement, segmentation, and feature extraction to improve the accuracy of tumor detection and classification.

- **OCR for Car Plate Recognition | MATLAB**
  a. Developed an OCR system to automatically convert car plates into numerical data using MATLAB.
  b. Implemented algorithms to enhance accuracy and efficiency in recognizing and extracting plate numbers.

Signal processing and AI projects

- **Heart Disease Classification | Python, Signal Processing, AI**
  a. Developed a system to classify heart disease by processing biomedical signals in Python and creating an AI model using neural networks.
  b. Trained and tested the model with ResNet50, achieving an accuracy of 98%.

Embedded Systems

- **Electrical Wheelchair for Paralyzed People | MIT App Inventor, NodeMCU, IoT**
  a. Developed an IoT-enabled electrical wheelchair controlled via an Android app created with MIT App Inventor and powered by NodeMCU.
  b. Integrated gyroscope sensors for fall detection, automatically sending alerts to designated contacts.
  c. Enhanced user mobility and safety with intuitive smartphone controls and real-time fall alerts.

- **Glove Walking Assistant for the Blind | Arduino, SD Modul**
  a. Enabled real-time audio guidance to enhance navigation and safety for users
  b. Developed an electronic glove that aids blind individuals in walking by providing voice signals using an SD module and Arduino

CERTIFICATIONS

Certificate in Web Development Full Stack with EPFL school

Awarded for completing a comprehensive bootcamp covering HTML, CSS, JavaScript, Python, and Flask, with a final project focused on a doctor booking reservation system

Mathematics for Machine Learning Specialization by Imperial collage London (Coursera)

1. Mathematics for Machine Learning: Linear Algebra
2. Mathematics for Machine Learning: Multivariate Calculus
3. Mathematics for Machine Learning: PCA

Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning by DeepLearning.Ai

Introduction to Deep Learning & Neural Networks with Keras by IBM

Introduction to Computer Vision and Image Processing by IBM

Embedded Systems with Arduino by Tomoh Damascus University

Printed Circuit Board (PCB) by Tomoh Damascus University

Principles of medical imaging systems by Training Center at Engineers Association

Introduction to Generative AI by Google Cloud

Classify Images of Cats and Dogs using Transfer Learning by Google Cloud

Mathematics using python by 365 Data Science

Certificate of Internet of Things (IOT) by EDRAAK

LANGUAGE SKILLS

Mother tongue(s): Arabic

Other language(s): English | German