YASSIEN TAWFIK

BIOMEDICAL ENGINEER

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PROFILE

Biomedical Engineering student at Cairo University, engaged in hands-on projects on medical device calibration and digital health applications. Committed to leveraging technology for healthcare advancements. Seeking internship opportunities to apply my technical knowledge in practical, innovative healthcare settings.

PROJECTS

- **Oral Cancer Prediction**
  - Non-invasive cancer prediction model using oral microbiome data and ML classifiers. GitHub Link
- **PulseSpy**
  - Live ECG monitoring tool with deep learning-based arrhythmia classification, intelligent alarm logic, and noise-resilient visualization. GitHub Link
- **SegmaVision**
  - App image segmentation using Otsu, spectral clustering, K-means, and region growing for tumor and tissue boundary detection. GitHub Link
- **SIFT-See**
  - Toolkit for extracting and matching image features using Harris corner detection and SIFT algorithm, aiding registration and tracking tasks. GitHub Link
- **EdgeEnhance**
  - Image processing tool using Hough Transform and Active Contour (snakes) for precise edge and contour detection in medical scans. GitHub Link
- **CTG Heart Failure Monitoring System**
  - Monitors and analyzes HRV and FHR signals to detect health abnormalities. GitHub Link
- **Automated Defibrillator System**
  - ECG-integrated system for automated cardiac event response. GitHub Link
- **Beamforming Simulator**
  - Simulation for analysis in telecommunications and medical imaging. GitHub Link
- **Dynamic Multi-Channel Signal Viewer**
  - Desktop application for enhanced medical signal visualization and management. GitHub Link
- **Z-Domain-Filter**
  - Designing and analyzing digital filters, featuring real-time updates. GitHub Link

CERTIFICATIONS

- Biomedical Training - Baheya Foundation
- Medical Devices Calibration
- Frontend Web Development - HTML, CSS, JS

Click Here to see the Certificates

EDUCATION

CAIRO UNIVERSITY

B.Sc. in Biomedical Engineering
2021 - Present

PROFESSIONAL EXPERIENCE

Biomedical Engineering Trainee

Baheya Foundation | 2024 - 90 Hours

- Gained comprehensive insights into clinical engineering and medical planning.
- Worked with medical devices across multiple departments, including pathology, sterilization, therapy, physiotherapy, and diagnostics. Developed skills in the hardware and electronic components of medical devices, focusing on their maintenance and calibration to ensure optimal performance.
- Attended sessions covering hospital systems beyond tumor-focused care, broadening my understanding of various healthcare environments.

TECHNICAL SKILLS

- **Programming:** C, C++, Java, Python
- **Data Structures:** Understanding of structures and their app
- **Embedded Systems:** Microcontroller interfacing and low-level driver development
- **Biomedical Expertise:** Biomedical device calibration
- **Digital Signal Processing:** Manipulating signals by digital techniques
- **Computer Vision:** Segmentation, feature extraction, and image enhance
- **Machine Learning:** Predictive modeling, neural networks, and classification techniques
- **Data Analysis:** Preprocessing, feature engineering, and statistical evaluation
- **Bioinformatics:** Microbiome profiling from sequencing data
- **Web Development:** HTML, CSS, JavaScript

COMMUNITY ACTIVITIES & INTERESTS

Program Ambassador	British Council “Taqaddam” | 2018 - 2020
Swimming Coach	Swimming Star Academy | 2020 - 2021
Teaching Assistant	Mr. Omar Sherbiny | 2021 - 2022
Operation Room Member	Ministry of Youth and Sports (YLY)
Event Organizer	In The Zone | 2023 - 2024
Skydiving Instructor	Al Galaa Airborne | 2019 - 2022