

YASSIEN TAWFIK

AI DEVELOPER | DL-ML-CV

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ABOUT ME

AI Developer with a strong orientation toward applied AI, medical imaging, and intelligent systems. Experienced in developing end-to-end software solutions using deep learning, machine learning, and biomedical signal processing.

EDUCATION

B.Sc. in Biomedical Engineering
Cairo University (2021 - Present) - GPA: 3.62

TECHNICAL SKILLS

- AI & Deep Learning:** Neural networks, CNNs classification, model evaluation
- Computer Vision:** Image segmentation, feature extraction, PCA, edge detection
- ML Tools:** Scikit-learn, SHAP, TensorFlow, Keras, OpenCV, Pandas, Seaborn, SciPy
- Programming:** Python, C++, C, Java
- Data Handling:** Preprocessing, feature engineering, statistical evaluation
- Digital Signal Processing:** Biomedical signal filtering, ECG processing
- Embedded Systems:** MCU interfacing, STM32 driver development
- Web Development:** HTML, CSS, JavaScript
- Bioinformatics:** Microbiome profiling, genomic data processing

RESEARCH INTERESTS

- Deep learning for biomedical imaging and signal interpretation
- Explainable ML - clinical transparency & trust
- AI-based medical diagnostics and DSS
- Cross-Domain Apps of AI in Computer Vision, Forecasting & Recommender Systems

CERTIFICATES

- Frontend Web Development - HTML, CSS, JS
[Click Here](#) to see all the Certificates

PROJECTS

- Explainable Breast Cancer Classifier**
ML model for tumor detection with SHAP-based interpretability & visualizations. [\[GitHub Link\]](#)
- Real-Time ECG Arrhythmia Detection System**
Deep Learning powered arrhythmia detection with smart alerts and noise-resistant display. [\[GitHub Link\]](#)
- Tabular ML Music Genre Classifier**
XGBoost-based classifier using extracted audio features to achieve 92.64% accuracy. [\[GitHub Link\]](#)
- Autonomous Traffic Sign Recognition**
Custom CNN achieving 96.23% accuracy for classifying 43 types of traffic signs for ADAS. [\[GitHub Link\]](#)
- Healthcare Patient Segmentation Tool**
K-Means clustering with PCA to segment patients into risk groups for targeted healthcare interventions. [\[GitHub Link\]](#)
- Retail Sales Forecasting Model**
Random Forest regression model achieving 97.69% R² score for weekly Walmart sales prediction. [\[GitHub Link\]](#)
- Loan Approval Prediction System**
Logistic Regression vs SVM for predicting loan approvals, with achieving 93.68% accuracy. [\[GitHub Link\]](#)
- Oral Cancer Prediction**
RF classifier trained on microbiome data to achieve 92.89% accuracy, SHAP clinical insights. [\[GitHub Link\]](#)
- Advanced CV & Image Processing Toolkit**
Detection, segmentation and matching Toolkit. [\[GitHub Link\]](#)

INTERNSHIPS

- Optoscient BME Intern | 2025 (Upcoming)**
Internship on digital pathology systems and technical support.
- Elevvo AI Internship | 2025**
Project-based Intern ML, DL, and CV to real-world problems
- Baheya BME Trainee | 2024 (90 Hours)**
Clinical engineering and device training across hospital units.