Omar Maged
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ABOUT ME

Driven and detail-oriented **Machine Learning Engineer** with a background in **Biomedical Engineering**, passionate about integrating AI into healthcare solutions. Skilled in developing intelligent systems for **medical diagnostics**, with hands-on experience in **medical imaging, deep learning**, and **natural language processing**. Strong communicator, eager to apply innovative technologies to improve patient care and clinical workflows.

EDUCATION

Bachelor of Biomedical Engineering
Mansoura University, Egypt | **GPA: 3.65**
Expected Graduation: 2025
Relevant Coursework: Signal Processing, Biomedical Instrumentation, Medical Imaging, Bioinformatics, Control Systems
Graduation Project: *AI-Powered Medical Chatbot with Integrated Image Analysis*

- Built a conversational assistant for symptom assessment and diagnostic guidance
- Integrated image analysis (X-ray, CT) using deep learning (U-Net, ResNet)
- Tools: Python, TensorFlow, Flask, NLP libraries

Diploma in Data Science & Artificial Intelligence
Amit Learning | **2024 – 2025**

- Practical training in Python, SQL, Machine Learning, Deep Learning
- Tools: Pandas, Scikit-learn, Matplotlib, Seaborn
- Covered EDA, modeling, and real-world AI projects

TECHNICAL SKILLS

- **Programming:** Python (NumPy, Pandas, TensorFlow, PyTorch), SQL

- **Machine Learning:** CNNs, U-Net, NLP, Transfer Learning, Hyperparameter Tuning
- **Frameworks & Tools:** Flask, Tkinter, PyQt5, Git, OpenCV, Arduino, PIC Microcontrollers
- **Data Science:** EDA, Feature Engineering, Regression/Classification Models
- **Domain Expertise:** Medical Imaging, IoT in Healthcare, Biomedical Signal Processing

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PROJECTS

1. Medical Chatbot with Integrated Image Analysis *(Graduation Project)*

- Merged **NLP** with **Computer Vision** to assist with diagnostics
- Achieved 94% accuracy in preliminary assessments

2. Blood Cell Cancer Detection System

- Built a GUI-based diagnostic tool with **Tkinter + CNN**
- Boosted accuracy by 7% via hyperparameter tuning

3. Brain Tumor Classification & Segmentation

- Used **U-Net** for segmentation (acc:0.94), **ResNet** for classification (97% accuracy)
- Integrated both models for full diagnostic pipeline

5. Finding Donors – Charity Prediction

- Built a classification model using Logistic Regression and Random Forest
- Performed feature selection, scaling, and model evaluation

6. Boston Housing Price Prediction

- Regression modeling with Scikit-learn; explored multiple algorithms (Ridge, Lasso, Random Forest)
- Visualized insights using Seaborn & Matplotlib

7. Image Processing Tool

- Developed filters and transformations for image enhancement
- Implemented edge detection, morphology filters, and noise reduction