Mohamed Abo-Mandor

Biomedical Engineering Undergraduate

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Profile

Biomedical Engineering student with a passion for innovation and problem-solving. Skilled in programming and machine learning, with experience applying AI to diverse challenges.

Education

Systems and Biomedical Engineering Department, Cairo University,
Bachelor's Degree, Oct 2020 – present
Accumulative GPA: 3.4
Expected Graduation Year: 2025

Skills

Machine learning: *Scikit-learn, Keras, PyTorch, OpenCV, Scipy*

Data Analysis: *SQL, Dask, NumPy, Pandas, Matplotlib, Seaborn*

Desktop App Development: *Qt5, PyQt6*

Programming Languages: *Python, C/C++, Java*

Version Control: Git, GitHub

Organizations

IEEE EMBS, Data analysis Mentor
09-2023 – present

- Guide on key data analysis techniques, tools, and statistical techniques, Creating visual representations of data and insights effectively.

Awards

Top 10 Presentations and shortlisted in the ITCS track,
Nile University 16th UGRF 2023 Competition

- Mobile app to input personal information and lifestyle habits to get the type of obesity.
- Suggestions for meals and exercises tailored to recommended calorie intake Using ML.

Projects

AI-Driven Appointment Scheduler, ML,Data Analysis

- Created a scheduler system for Fanous Clinic, USA, using AI to optimize appointments based on disease reports.
- Leveraged patient data and ML models to offer instant, data-driven suggestions.

VisionaryID, OpenCV, Eigenfaces, Python

- Utilized OpenCV for offline and real-time face detection, and EigenFace recognition for accurate face identification.
- Implemented online camera integration and good visual representation of detection and recognition results.

Image Alchemy, OpenCV, Image Processing, Pyqt6

- Toolkit for image processing and Computer Vision tasks
- Included Algorithms: Active Contours, Sift detector, Segmentation, Clustering Techniques, and Filters

ICU Monitor Viewer, Python, PyQt6

- Intuitive UI with dual graph display, cine mode, and signal manipulation features.
- Supports signal file browsing, export to PDF reports, and seamless integration for optimal user experience.

SpectraVoice Secure-Access, Voice-Analysis, SVM, Python

- Utilizes spectrogram analysis for advanced authentication.
- Offers customizable passcode and voice fingerprint modes for access control.

Citrus Classification Task, Python, data analysis, ML, DL

- Applied data-cleaning techniques with Naïve Bayes classifier from scratch and simple Neural Network with PyTorch for comparison.

Signal Studio Pro, Python, PyQt6, DSP, GUI

- Supports comprehensive signal sampling, reconstruction, and error analysis with PyQt6 GUI.

Interactive DICOM Imaging Suite, VTK, Volume Rendering

- Dynamic Rendering: Supports surface and ray casting techniques for medical image exploration..

Learning Management System, Qt , C++

- Educational content management and student tracking.
- Highly customizable, tailored to institutional needs.

Training

Dialysis Devices Maintenance, EGMED
07-2023 – 08-2023

- Troubleshooting various hardware errors and problems.
- Developed valuable soft skills through interaction with hospital staff and engineers.

Apple Device Maintenance, Hive-Egypt (ifix before)
08-2022 – 10-2022

- Diagnosing and fixing hardware issues with iPhones.
- Replacing broken or damaged parts such as screens, batteries, and cameras.