

Curriculum Vitae

Maged Badawi

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[Linked In](#) | [XING](#) | [Portfolio](#)

Educational Qualification:

Master's degree in Medical Engineering (Medical Image and Data Processing):

University of Erlangen-Nuremberg - Erlangen, Germany

2022 - 2025

- **Modules:** Deep Learning, Diagnostic Medical Image Processing, Pattern Analysis, Technology & Innovation Management.
- **Dissertation:** Artificial Neural Network-based Volume Conductor Solver for Electrical Spinal Cord Stimulation Applications.

Bachelor's degree in Systems and Biomedical Engineering (5-year degree):

The higher Institute of Engineering in Al-Shorouk City (SH.A.) - Cairo, Egypt

2016 - 2021

- **Modules:** Medical Equipment, Digital Signal Processing, Digital Electronics, Projects Management.
- **Dissertation:** A medical mobile application for addressing the educational challenges by stimulating human memories using augmented reality technology developed by Unity engine in an interactive way.

Ideal Student Title:

The higher Institute of Engineering in Al-Shorouk City (SH.A.) - Cairo Egypt

2021

Learner:

The American University in Cairo (AUC) - Cairo, Egypt

2020 - 2021

Professional Experience & Internships (~3 years):

Biomedical Engineer (Part-Time):

Siemens Healthineers HQ - Erlangen, Germany

May 2023 - Present

- Contributed to the development of AR/VR-based digital education content for medical equipment, enhancing interactive learning experiences.
- Contributed to product and hardware lifecycle management, including strategic planning, backlog tracking using Azure DevOps, and close coordination with multidisciplinary teams.
- Authored detailed technical documentation, designed Power BI dashboards for product insights, and led live demonstrations to showcase key features and training workflows to stakeholders.

Field Service Engineer (Full-Time):

AXA Medical - Cairo, Egypt

Sept. 2021 - Mar. 2022

- Performed precise installation and configuration of medical devices in compliance with manufacturer protocols and clinical standards.
- Diagnosed and resolved hardware and software issues through systematic troubleshooting, minimizing downtime and ensuring operational efficiency.
- Conducted regular preventive and corrective maintenance on ICU and OR equipment, ensuring reliability and adherence to hospital safety regulations.
- Provided comprehensive training to medical staff on the safe and effective use of medical technologies, improving clinical workflow and device utilization.

Service Engineer (Full-Time Intern):

EGMED - Cairo, Egypt

22nd Aug. - 22nd Sept. 2021

Service Engineer (Full-Time Intern):

BASHIRKO - Jeddah, Saudi Arabia

18th Aug. - 19th Sep. 2019

Clinical Engineer (Full-Time Intern):

International Medical Center (IMC) - Cairo, Egypt

6th Jul. - 13th Jul. 2019

Service Engineer (Full-Time Intern):

AMICO - Jeddah, Saudi Arabia

5th Aug. - 13th Sept. 2018

Service/Clinical Engineer (Part-Time Intern):

Mansura University Hospital - Mansoura, Egypt

8th Jul. - 26th Jul. 2018

Technical Certificates:

Medical Device Regulation.	Sept. 2024
Applications of Nanotechnology in Cardiovascular Diseases.	Jan. 2023
Python and Raspberry Pi Workshop.	Jun. 2019 - Jul. 2019
Analog and Digital Workshop.	Jun. 2018 - Jul. 2018
MATLAB.	Jul. 2018
Arduino Workshop.	Oct. 2017 - Feb. 2018

Computer, Technical Skills & Scientific Knowledge:

- Computer Skills including (MS Office, Internet, HTML, CSS, Azure DevOps, Power BI, Power Automate & AutoCAD).
- Intermediate proficiency in programming Languages (C, C++, & C#).
- Intermediate to advanced proficiency in programming languages (Python & MATLAB + Simulink).
- Strong background in Artificial Intelligence, Machine Learning, and Deep Learning (AI/ML/DL) with hands-on experience.
- Initial Experience with AI Agents, LLMs, MLOps, Dockers and Cloud services.
- Proteus (Electrical and Electronic Circuits).
- Embedded Systems (C programming with PIC & Python with Raspberry Pi).
- Electronic & Electrical Concepts.
- Human Body Anatomy and Physiology.
- X-RAY, CT and MRI Machines Concepts and their Basic Components.
- Machine Design, Fluid and Thermodynamics basics and concepts.
- Networks and IT, data structure and data base (SQL).
- Bioinformatics.

Projects & Scientific Papers:

- Chest X-Ray Image Generator using Variational Autoencoder (VAE) with Docker Environment.	Oct. 2025
- Built a transformer-based Large Language Model (LLM) from scratch using PyTorch and the YouTube Spam dataset.	Sept. 2025
- Rehabilitative Game-based System for Enhancing Physical and Cognitive Abilities of Neurological Disorders.	Mar. 2025
- Chest X-Ray Images Classification Using Deep Learning: Normal, Pneumonia (Bacterial and Viral), and Tuberculosis.	2024
- Review of Zero-Shot and Few-Shot AI Algorithms in The Medical Domain.	Jun. 2024
- Flat-panel CT reconstruction.	Jul. 2023
- Deep learning fully connected layers model.	Oct. 2022
- Embedded System circuits using PIC and C programming.	Apr. 2021
- ECG signal processing tool(Filtration, Heart rate, FR and histogram) using MATLAB.	Apr. 2021
- Prototype Mini Automatic Garage using Raspberry pi and python.	Dec. 2020
- Bioinformatic tool for the DNA Cancer sequences classification using Python.	Dec. 2020
- Fingerprint Classification model using MATLAB.	Nov. 2020
- ECG Filtration Circuit (Hardware.)	Apr. 2020
- Infusion Pump (Hardware and Software) using raspberry pi and Python.	Jul. 2019
- Feasibility Study of a Hospital (Hospital design and medical planning.)	May 2019

Competitions:

1 st Ideal Student for the academic year 2020/2021 competition.	Sept. 2021
3 rd place of Science-Clubs Competition.	Apr. 2021
2 nd place of IEEE ROBO BOND 007 Competition.	Apr. 2018

Volunteering & Activities 2018-2021:

Marketing Member at IEEE Al-Shorouk Academy.
Researcher at The Ministry of Higher Education.
Irregular volunteer at Ressala Charity.
Technical Support at IEEE Al-Shorouk Academy.

Languages Proficiency:

Arabic: Native.
English: Professional Proficiency.
French: Elementary Proficiency.
German: Elementary Proficiency.

References are available upon request.