

Abdelrahman Elsharkawy

AI and Software Engineer

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EDUCATION

Università degli Studi di Genova, Sep 2025 – Present
MEng. in Engineering Technology for Strategy and Security (STRATEGOS)

Cairo University Faculty of Engineering, BSc. in Software and Biomedical data Engineering Sep 2020 – Jun 2025

INTERNSHIPS

National Telecommunication Institute (NTI), Full-stack intern web developer 📄 Jul 2024 – Sep 2024

- Develop websites and web apps MERN stack
- Worked in teams to improve Communication skills and with clients to gain Freelancing Basics

ECPC Programming competition, Competitive Programmer and Contestant 📄 Jul 2024

Kasr AlAiny School of Medicine Hospital, Field Service Engineering intern Jun 2023 – Sep 2023
working on OR, ICU, Sterilization and disinfection medical devices, Incubators and power supply electronics.

HSI Healthcare Training & Consultation, Clinical Engineering Intern May 2023 – Aug 2023
Hospital Design Review, Medical Equipment Planning, Maintenance Management & procurement.

Kalbonyan al-marsos, Web Developer (front-end) intern Dec 2022 – Feb 2023
Design and develop landing pages and websites and collaborating with version control

PROJECTS

TrueForm PDF, Scanned PDF converter 📄
Saas that converts scanned PDFs and handwritten notes into fully searchable, editable, compressed digital text PDFs powered by OCR and AI while maintaining the essence and appearance of your layout.

Lockedin, A fully featured Linkedin Clone 📄
As part of the 4-member backend team, we implemented the project using agile methodology and collaborated during the development using Git flow, we used Expressjs as the backend framework. I created complete authentication and authorization module with captcha and google login, admin Dashboard managing reports, accounts & platform analytics, and a complete connections module between users. Writing a complete API documentation and writing unit tests with more than 90% coverage, endpoints and integration tests to ensure the consistent integration with the frontend and cross-platform teams.

VR Simulation for Endoscopic Neurosurgery, Graduation project 📄
the development of a virtual reality (VR) simulation for the first step of the endoscopic endonasal approach (EEA) to access the pituitary gland which is the entrance to the nasal cavity. The project aims to provide a safe, immersive, repeatable, and 3D environment with realistic anatomy, lighting, textures, collisions, interactions and feedback to provide and educational and training platform for neurosurgeons and medical students.
Poster 📄 **Paper** 📄 **Video** 📄 **Prize** 📄

3D_Reconstruction_From_Sinus_Endoscopy 📄
Implementing a patient-specific, learning-based 3D reconstruction method for sinus surface anatomy using only endoscopic videos, based on a research paper.

Omni_Food 📄
Developed a responsive landing page for a custom meal delivery startup using HTML and CSS, optimized for all screen sizes.

HCIS_Dental_Clinic
Health Care Information System for a Dental Clinic :
implemented backend with fastapi

Computer_Vision_Toolkit 📄
A Desktop application that provide various computer vision tools : Edge Detection, Corner Detection, Hough Line and ellipse detection, dimensionality reduction and Face Recognition based on eigen faces

Canny_Edge_Detector 📄
A web application built to implement the Canny Edge Detection algorithm from scratch. allows users to upload an image, and then perform edge detection on it

Live_Multichannel_Signal_Monitor [🔗](#)

A Desktop application serves as a real-time vital sign monitoring across multiple channels with playback controls & statistical reports.

Image_Magnitude_Phase_Mixer [🔗](#)

Developed a tool to analyze, combine, and visualize image components, enabling the creation of new images by mixing magnitude and phase components from different sources.

Real-Time_Medical_Data_Monitoring_System [🔗](#)

Developed a system simulating communication between medical devices and a server to store real-time vital sign data, featuring a Redis-based storage, and a GUI for visualization of vital signs and search by patient ID.

Genomic-Analysis-of-SARS-CoV-2-Delta-and-Omicron-Variants [🔗](#)

Performed multiple sequence alignment, nucleotide composition analysis, and phylogenetic tree construction to compare the Delta and Omicron variants using data from GISAID, Clustal Omega, Biopython, and MEGA11x, identifying key genetic differences and evolutionary relationships.

Border_Break_Raylib_game [🔗](#)

Border Break is a simple yet engaging game developed using C++ and the Raylib library. Your goal is to guide the ball to freedom using intuitive swipe gestures.

SKILLS

Python

FastAPI

LangChain

Flask

pyQT

HTML

CSS

Bootstrap

Tailwind css

Typescript

React

Angular

Node

Expressjs

PostgreSQL

MongoDB

Redis

Docker

linux Bash

Git

Excel

C++

c#

Unity

EXTRACURRICULARS

Marketing Team Member

Volunteered at Energia Powered to promote an online programming competition and classes.

HSI student ambassador

promoting HSI educational services for Students and coordinating of university events.

AWARDS

Won 2nd place and 4000 pounds in graduation projection Distinction competition among all graduation projects in the Electrical, Computer, Communications and Biomedical Engineering departments, Arbitration Committee from industry experts and Cairo University. 🔗	Jun 2025
Won 30,000 pounds in funding for my Graduation project, <i>ITAC Collaborative Funded Projects</i> 🔗	Apr 2025
Won 70,00 pounds in funding for my Graduation project, <i>Academy of Scientific Research & Technology</i>	Feb 2025