

Mohamed Abdelaziz

STEM Student • Computer Engineering • AI & Embedded Systems

+20 114 682 3255

medozizo008@gmail.com

github.com/DsMans0021

6th of October City, Giza, Egypt

EDUCATION

STEM School for Boys – 6th of October

Grade 12 / 12-C • STEM Track
2025–2026

TECHNICAL SKILLS

Programming

Python, C#, C/C++, MicroPython

AI / Vision

YOLOv8, OpenCV, object detection, computer vision

Web

HTML, CSS, Tailwind CSS, Firebase

Embedded

Raspberry Pi, Arduino, ESP32, PlatformIO

Systems

Linux, Arch Linux, OpenWrt, Linux networking

Tools

Git, GitHub, GitHub Actions, Codespaces, Arduino IDE

Media

FFmpeg, MoviePy, yt-dlp

Networking

TCP/IP concepts, Cisco networking, cybersecurity, cryptography

LANGUAGES

- Arabic - Native
- English - B2 (Upper-Intermediate)

FOCUS AREAS

- Artificial Intelligence & Machine Learning
- Computer Vision & Intelligent Transportation
- Embedded Systems, IoT & Robotics
- Cybersecurity & Computer Networks
- Smart Cities & Renewable Energy

PROFILE

Grade 12 STEM student with hands-on experience across software development, artificial intelligence, computer vision, embedded systems, networking, cybersecurity, and game development. Experienced in building practical prototypes with Python, YOLOv8, OpenCV, Raspberry Pi, Arduino, and ESP32. Interested in studying Computer Engineering and using technology to solve real-world problems.

SELECTED PROJECTS

IntelliRoad - Smart Traffic Management

STEM Capstone Project

Designed an intelligent traffic-management system aimed at reducing congestion, improving road safety, and prioritizing emergency vehicles around the 26th of July Axis.

Python • YOLOv8 • OpenCV • Object Detection • SUMO

Personal AI Assistant

Raspberry Pi Zero 2 W

Built a personal AI-assistant project combining Python, Linux, embedded systems, and hardware/software integration on a Raspberry Pi Zero 2 W.

Python • Linux • Raspberry Pi • Embedded Systems

Purihookah - Air Filtration & CO2 Reduction

STEM Engineering Project

Developed and tested a two-stage experimental air-filtration and CO2 reduction prototype using filtration, chemical absorption, Arduino, and air-quality sensors.

Arduino • MQ135 • Sensors • Experimental Testing

Game Development

Hack Club & Game Jams

Developed games and interactive applications and participated in Counterspell and itch.io game jams, applying rapid prototyping, game design, and programming.

Unity • C# • Pygame • GameMaker • Ren'Py

LEADERSHIP & EXPERIENCE

Game Development Mentor

Hack Club STEM October

Mentored students in game development, programming, technical problem solving, and project development.

Game Jam Participant

Hack Club Counterspell & itch.io

Built game projects under time constraints while practicing rapid prototyping, programming, and iterative development.

Game Jams Hosting

STEM School for Boys – 6th of October

Hosting Several Game jams for the students at school on itch.io and distributing prizes

Compeitions

- 186th place International, Purple Comet
- Top 16 team, International Biology Bowl
- 1st place National, 2nd on Africa, 45th International, Physics Brawl

ADDITIONAL TECHNICAL WORK

- Solar Chimney research: solar updraft towers, renewable energy, and engineering design.
- Python media tools using Tkinter, MoviePy, FFmpeg, and yt-dlp.
- Hands-on experimentation with Raspberry Pi, Arduino, ESP32, MicroPython, Linux, OpenWrt, networking, and cybersecurity.