

Mahmoud Mohamed Shamekh

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PROFESSIONAL SUMMARY

Motivated Mechatronics Engineering undergraduate with a strong foundation in Industrial Automation, Robotics, Control Systems, and Artificial Intelligence applications. Experienced in PLC programming, classic control, embedded software development, and computer vision frameworks. Proven capacity for hardware-software integration, mechanical design, and system simulation gained through hands-on technical roles and competitive engineering teams.

EDUCATION

Benha University
Bachelor of Engineering in Mechatronics Engineering

Cairo, Egypt
Oct 2023 – Jun 2027

PROFESSIONAL EXPERIENCE

IEEE Benha University Student Branch (IEEE BUB SB)
Robotics & Arduino Committee Member

Benha, Egypt
Oct 2025 – Present

- Engaged in rigorous technical workshops and hands-on projects optimizing embedded hardware setups and real-time execution parameters via Arduino IDE.
- Built and calibrated circuitry for complex autonomous prototypes including a Maze Solver Robot and a Smart Traffic Light System, sharpening skills in sensory integration and hardware-software validation.

HA Consulting Group
Industrial Automation Trainee

Cairo, Egypt
Jul 2025 – Aug 2025

- Developed and troubleshooted industrial control circuits and PLC applications using **Siemens**, **Schneider**, and **Wecon** controllers.
- Designed and executed automation simulations and control system architectures utilizing **TIA Portal**, **Factory I/O**, and **Cade Simu**.
- Implemented Star/Delta motor wiring, configured industrial motor drives for precise speed control, and integrated functional sensors for real-world automation applications.

Shoubra Racing Team (SRT)
Body Team Member

Benha, Egypt
Oct 2024 – Present

- Collaborated within the Body Team to design and manufacture energy-efficient vehicle bodies for prestigious international competitions including Shell Eco-marathon, EV Egypt, and Formula Student.
- Developed aerodynamic and visually optimized exterior bodywork using 3D CAD platforms to enhance vehicular efficiency and structural performance.

PROJECTS

RC Rover with 6-DOF Robotic Arm
Plaza Robotics Competition

Mansoura University
Feb 2026 – May 2026

- Mechanical & Embedded Design: Managed design and development for a mobile robotic rover integrated with a 6-DOF manipulator arm for advanced robotic manipulation.
- Hardware Integration: Executed end-to-end mechanical CAD modeling, hardware integration, and embedded system implementation for wireless movement and control.

Smart Attendance System using AI & Computer Vision
Ramadan Camp Project – Awarded 2nd Place

IEEE BUB SB
Mar 2026 – Apr 2026

- Computer Vision Logic: Developed an automated, real-time face verification pipeline utilizing YOLOv8 for detection and DeepFace/OpenFace architectures for 128-dimensional embedding generation.
- Software Architecture: Implemented Cosine Similarity data evaluation logic and engineered a professional desktop graphical user interface using PyQt5, achieving 2nd place in the Ramadan Camp 2026 AI track.

TECHNICAL SKILLS

Programming Languages: C/C++, Embedded C, Python
Engineering Software: MATLAB, Simulink, SOLIDWORKS, AutoCAD, Fusion 360, TIA Portal, Factory I/O, Cade Simu, Proteus, Power BI
Core Concepts: Classic Control, PLC Programming, Industrial Automation, Motor Drives, Kinematics (DH Parameters), Computer Vision
Languages: Arabic (Native), English (B1 Professional Working)