Mohamed Tarek El-Demerdash

Mechatronics & Automation Engineer

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SUMMARY

"Mechatronics Engineer with practical experience in industrial maintenance and production line supervision. Currently focused on integrating **Embedded Systems** with **AI** through continuous research and hands-on projects. Skilled in **Mechanical Design**, **Automation**, and technical problem-solving. A fast learner with a proven ability to manage engineering workflows and deliver innovative robotic solutions."

WORK EXPERIENCE

Blue Fields Company (SPECTRA),   01/06/2025 – 01/11/2025

Maintenance & Production Supervision Engineer

- Supervised industrial production lines to ensure smooth operations and high-quality output.
- Responsible for maintaining specialized machinery supplied to international clients.
- Monitored quality control and final assembly processes of machines before delivery.
- Executed technical support initiatives that streamlined communication between engineering and operations teams, resulting in a 20% decrease in response time for equipment malfunctions and increasing overall system reliability.

PROJECTS

Window Cleaning Robot (Graduation Project),   07/2024 – 02/2025

Role: Lead Design Engineer

Designed and led the development of an autonomous window-cleaning robot utilizing an impeller-based suction system for vertical adhesion. Developed a timing-belt-driven locomotion mechanism, optimized for stability and precision. Integrated embedded control systems for motion and safety. The project received high academic recognition for innovative mechanical design and problem-solving.

EDUCATION

Tanta University, *Bachelor of Engineering in Mechatronics*   2020 – 2025
- **GPA:** 3.36
- **Fast-Track Achievement:** Completed the 5-year Engineering Degree in **4.5 years** (Accelerated completion), demonstrating high efficiency and commitment.

TECHNICAL SKILLS

- Mechanical Design: SolidWorks (Proficient), Mechanical Linkages, Timing Belt Systems
- Embedded & Programming: C++, Embedded C, Python (OOP, Scripting), Microcontrollers
- Automation: PLC (Siemens TIA Portal – Basic),
- Simulation & Analysis: MATLAB, Proteus
- Operating Systems: Linux (Ubuntu – Basic)

CERTIFICATION

- AI (Artificial Intelligence) course from Zewail University, Automotive.
- Mechanics course from Engovation.
- Certified in Project Management from UCCD.

LANGUAGES

Arabic
Native

English
Advanced (B2)

German
Basic (A2)