

# MUSTAFA GHONEIM

AI Automation Engineer | Full-Stack Developer  
Giza, Egypt | +20 111 748 8570 | musgamal05@gmail.com  
LinkedIn: [linkedin.com/in/mustafa-gamal739](https://linkedin.com/in/mustafa-gamal739) | Portfolio: [mustafa-meco.github.io/portfolio](https://mustafa-meco.github.io/portfolio)

## PROFESSIONAL SUMMARY

AI Automation Engineer with 2+ years building intelligent automation systems using Python, n8n, and modern web frameworks. Expert in developing end-to-end solutions integrating ML, computer vision, and workflow automation. Delivered production systems serving 3,000+ users reducing manual work by 60% through intelligent APIs, automated pipelines, and full-stack development.

## KEY ACHIEVEMENTS

- Delivered 5+ full-stack MVC applications (C#, ASP.NET, React, SQL) serving 3,000+ users across military departments
- Built autonomous solar inspection system with AI-powered defect detection reducing manual review time by 60%
- Developed real-time multi-camera streaming platform with AI agent integration and automated alert workflows
- Won 2nd Place Internationally in Robotics Competition with autonomous navigation and computer vision system
- Created 15+ production automation workflows using n8n, AppSheet, and Google Apps Script

## TECHNICAL SKILLS

**Programming:** Python, C#, JavaScript, C++, SQL

**Automation:** n8n, Selenium, AppSheet, Google Apps Script, Zapier, Make, AirTable

**AI/ML:** Computer Vision, NLP, TensorFlow, PyTorch, OpenCV, Chatbots, ML Agents

**Web Development:** ASP.NET MVC, Django, FastAPI, Flask, React, Vue.js, Electron, HTML/CSS

**APIs & Integration:** REST APIs, ZeroMQ, Google Workspace APIs, MediaMTX, Third-Party Integration

**Databases:** Microsoft SQL Server, Entity Framework, MySQL, PostgreSQL

**Other:** ROS, Raspberry Pi, Arduino, Git, Agile

## PROFESSIONAL EXPERIENCE

### Software Developer – AI & Full-Stack

November 2024 - Present

#### Labtronic Industries

Remote

- Architected Electron + Vue camera management app with AI video analytics and real-time streaming via MediaMTX
- Built scalable ZeroMQ communication pipelines for multi-camera data streaming and system integration
- Implemented AI agent framework enabling custom computer vision model deployment with automated alerts

### IS Soldier – Software Production Office

April 2025 - Present

#### Egyptian Air Force

On-site

- Developed 5+ full-stack MVC applications (C#, ASP.NET, React, SQL) serving 3,000+ users including Exam Management, Personal Meetings, and Gate Entrance systems
- Built AI-powered Egyptian National Card scanning system with automated data extraction workflows
- Designed databases from scratch using MS SQL Server and Entity Framework with comprehensive

optimization

- Coordinated with team of 16+ developers ensuring code quality, system stability, and on-schedule delivery

### **AI/ML Software R&D Engineer**

*June 2024 - November 2024*

#### **Effika**

*6th October, Giza*

- Architected autonomous solar inspection system with drone automation and AI defect detection reducing inspection time by 60%
- Built end-to-end ML pipeline with automated reporting and real-time monitoring dashboard

### **AI Engineer**

*July 2024 - March 2025*

#### **Labtronic Industries**

*6th October, Giza*

- Developed real-time multi-source video analysis system with behavior pattern extraction and parameter calculation
- Built desktop application supporting simultaneous multi-video processing with secure license management
- Created AR welding training system with real-time feedback automation

### **Curriculum Developer & Instructor**

*December 2022 - February 2024*

#### **MindValley**

*Sheikh Zayed, Giza*

- Developed comprehensive curriculum for Programming, Python, App Development, AI/ML, and Arduino with automated content workflows
- Built automated scheduling, invoicing, and presentation generation systems using AppSheet and Apps Script serving 200+ students

### **Teaching Assistant & Research Assistant**

*September 2020 - January 2025*

#### **Zewail City of Science and Technology**

*6th October, Giza*

Junior TA then TA for Computer Science, Data Structures, Robotics, and AI courses teaching Python, C++, ROS to 300+ students. Conducted robotics research with ROS for autonomous systems.

## **SELECTED PROJECTS**

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**Automation Workflows:** Built 15+ n8n workflows including AI sentiment analysis (Gemini), IT ticketing automation, calendar sync, and CRM systems. Developed Google Workspace automation suite with Apps Script for scheduling, invoicing, and reporting.

**Computer Vision:** Autonomous mine detection robot (2nd Place International), AR educational games platform, parking management system, hand gesture control applications. Technologies: Python, OpenCV, MediaPipe, ArUco.

**Robotics:** Built autonomous robot with Raspberry Pi and ROS implementing automated navigation and control (Robox). Developed automated control workflows for robotic platforms.

## **EDUCATION**

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### **Bachelor of Science in Aerospace Engineering**

#### **Zewail City - University of Science and Technology, Giza, Egypt**

Minor: Communication & Information Engineering | Graduation Project: Autonomous Solar Inspection System

**Awards:** 1st Place GDSC Egypt Hackathon 2022 | 2nd Place International Robotics 2022 | 3rd Place Solution Challenge 2023 | Chairperson Student Organizations Council 2022