Mohamed Ali Saber

Junior Industrial Automation & PLC Engineer

mohamedalim559@gmail.com — +20 1097055524 — LinkedIn — Cairo, Egypt

Professional Summary

Junior Industrial Automation Engineer with strong hands-on background in PLC logic, industrial motor control, and embedded systems. Experienced with Siemens PLC (Ladder Logic) in simulation environments, Factory I/O automation scenarios, and real hardware integration through robotics and IoT competitions. Solid understanding of control systems, sensors, motor drives, and real-time systems. Actively seeking a Junior PLC / Automation role.

Education

Bachelor of Mechatronics Engineering — Mansoura University

Expected Graduation: June 2026 GPA: 3.65 / 4.00

Industrial Automation Skills

- Siemens PLC programming using Ladder Logic (Simulation).
- Motor control circuits using contactors, relays, timers, and sensors.
- Practical understanding of Soft Starters and AC Drives.
- Factory automation simulation using Factory I/O.
- Control logic sequencing and industrial safety concepts.

Embedded Systems & Control

- Microcontrollers: Arduino, STM32, ESP32.
- Communication protocols: UART, SPI, I2C.
- Sensors: IR, Ultrasonic, Encoders, IMU.
- Motors: DC, Stepper, Servo.
- Control Systems: PID control applied in mobile robotics.

Experience

Head of Software Circle — Momentum MU **Sept 2023 – Sept 2024**

- Led software and control-related activities for robotics and automation projects.
- Supervised embedded systems development and control algorithm implementation.
- Collaborated with hardware and mechanical teams to build integrated robotic systems.

Software Instructor — Luminous Team

- Delivered training sessions in programming and embedded systems fundamentals.
- Mentored students in robotics and automation-oriented projects.

Graduation Project — CrashXpert (In Progress)

Real-Time Car Accident Management & Emergency Response System

- Designed an end-to-end IoT-based accident detection and response system.
- Implemented automatic crash detection using ESP32 with accelerometer and GPS.
- Developed a real-time web dashboard with role-based access (User, Admin, Emergency).
- Integrated Raspberry Pi camera streaming with YOLO-based object detection.
- Implemented live location tracking, routing, and ETA calculation.
- Applied embedded systems, control systems, and real-time data synchronization concepts.

Projects

- **Micromouse Autonomous Robot** — Flood Fill algorithm, PID motor control, encoder-based localization.
- **Industrial Conveyor Automation (Factory I/O)** — Sensor-based motor control and automation sequencing.
- **Embedded Motor Control Applications** — Multiple projects using Arduino, STM32, and ESP32.

Competitions

- IEEE Micromouse Competition — **2nd Place** (Best Software Performance).
- IEEE IoT Competition — **1st Place**.
- IEEE Formula Fire Fighting Competition — **1st Place**.

Trainings

- Full Stack .NET Diploma — DEPI (6 Months).
- Machine Learning & Deep Learning Diploma — NTI.

Technical Skills

- **PLC & Automation:** Siemens PLC, Ladder Logic, Factory I/O.
- **Embedded Systems:** Arduino, STM32, ESP32.
- **Control Systems:** PID, Motor Drives, Industrial Control Circuits.
- **Programming:** C, C++, C#, Python.
- **Tools:** Git, Visual Studio, MATLAB (Basic).

Languages

- Arabic — Native
- English — Intermediate