

IBRAHIM ALI GHANIM

MECHATRONICS ENGINEER | CONTROL SYSTEMS, SCADA & INDUSTRIAL AUTOMATION

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[LinkedIn Profile](#)

PROFESSIONAL SUMMARY

Mechatronics Engineering graduate (2026), ranked 9th out of 90 students (Top 10%), focused on PLC control, SCADA/HMI, electrical control, and industrial automation. Project experience with Siemens S7-1200/S7-200, Schneider Zelio, TIA Portal, WinCC, Node-RED, Factory I/O, and Modbus TCP, covering sequential control, motor and pump control, interlocks, alarms, dashboards, and AI-assisted fault detection.

EDUCATION

B.Sc. in Mechatronics Engineering | University of Baghdad - Al-Khwarizmi College of Engineering | June 2026

Ranked 9th out of 90 Mechatronics Engineering students (Top 10% of the cohort)

TECHNICAL SKILLS

PLC & Control Systems: Siemens S7-1200/S7-200 • Schneider Zelio • TIA Portal • PLCSIM • Ladder Logic • Timers/Counters • Set/Reset • Comparators • Analog I/O & Scaling • Interlocks • Sequential, Motor, Pump & Tank Control • PID Fundamentals

SCADA & HMI: Siemens WinCC • Node-RED Dashboard • Start/Stop & Manual/Auto Controls • Alarms • Trends • Gauges • Event Logs • Login Systems • Fault Reset • Emergency Stop

Industrial Communication: Modbus TCP • Ethernet/IP • MQTT • REST APIs • JSON • Serial Communication • ESP32-Node-RED • PLC-HMI • PLC/Node-RED-Factory I/O Integration

Electrical Control: Power & Control Schematic Reading • Relays • Contactors • Circuit Breakers • Motor Starters • Sensors • Control Panels • Basic AutoCAD Electrical Drawings

AI for Automation: Python • FastAPI • Isolation Forest • AI-Assisted Anomaly and Fault Detection

INTERNSHIPS & TECHNICAL EXPERIENCE

SCADA & Electrical Systems Intern | Ministry of Electricity - Rusafa Directorate, Baghdad | Jul 2025 - Aug 2025

Observed SCADA control-room monitoring, alarm response, server infrastructure, electrical control panels, and the connection between field equipment and centralized supervision.

Instrumentation & Maintenance Trainee | Alchemy Scientific, Baghdad | Jun 2026 - Jul 2026

Performed calibration, functional testing, basic troubleshooting, probe care, and battery replacement on laboratory and water-quality instruments.

SELECTED PROJECTS

Integrated PLC-HMI-IIoT Platform | System Integration | [View Project](#)

Integrated Siemens PLCSIM, WinCC HMI, Node-RED, Factory I/O, and VS Code in one synchronized environment for real-time control, monitoring, and industrial data exchange without external PLC hardware.

Multi-Station Tank & Pump Control System | Process Automation Simulation | [View Project](#)

Designed a simulated control architecture for 16 tanks and four pumping stations using Siemens PLC/HMI, Node-RED, Modbus, Factory I/O, automatic pump logic, alarms, trends, and leak detection.

Automated Conveyor & Elevator System | Siemens S7-200 | [View Project](#)

Programmed Ladder Logic for sensor- and counter-based item transfer across three levels, floor sorting, conveyor sequencing, and automatic elevator return in Factory I/O.

PetroSafe AI - Tank Safety & Fault Detection | Industrial Automation Prototype | [View Project](#)

Built a Node-RED, Factory I/O, and Modbus tank-control prototype with Auto/Manual operation, E-STOP, Process Trip, fault latching, leak/blockage detection, trends, event logging, and advisory anomaly detection.

LANGUAGES

Arabic - Native | English - Intermediate