

IBRAHIM ALI GHANIM

MECHATRONICS ENGINEER | OIL & GAS AUTOMATION, SCADA & INSTRUMENTATION

Al-Adhamiya, Baghdad, Iraq | +964 774 581 2336 | ibrahim.ali.ghanim@gmail.com
[LinkedIn Profile](#)

PROFESSIONAL SUMMARY

Mechatronics Engineering graduate (2026), ranked 9th out of 90 students (Top 10%), focused on oil and gas automation, SCADA, instrumentation, and electrical control. Project experience in tank and pump monitoring, industrial alarms, Modbus TCP, Siemens PLC/HMI, Node-RED, Factory I/O, and AI-assisted anomaly detection. Practical exposure to SCADA control rooms, electrical panels, instrument calibration, and troubleshooting.

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

Industrial Automation & Control: Siemens S7-1200/S7-200 • TIA Portal • PLCSIM • Ladder Logic • PLC Programming • PID Fundamentals • Classic Control • Interlocks • E-STOP • Process Trip

SCADA & Industrial Communication: SCADA/HMI • Node-RED • Factory I/O • Modbus TCP • REST/JSON • Alarms • Trends • Event Logging

Instrumentation & Electrical: Level/Flow/Pressure Sensors • 4-20 mA & 0-10 V • Calibration • Control Valves • Pumps • Motors • Relays • Contactors • Circuit Breakers • Control Panels • VFD/Soft Starter Fundamentals

Oil & Gas Process Applications: Tank & Pump Monitoring • Instrument Air • Leak/Blockage Detection • Compressors • Pipelines • P&ID/PFD Interpretation

AI for Process Monitoring: Python • FastAPI • Isolation Forest • Anomaly 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, and electrical control panels.

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

Performed calibration, functional testing, basic troubleshooting, probe care, and battery replacement on Hanna pH, ORP, EC, TDS, temperature, turbidity, and photometer instruments.

SELECTED PROJECTS

PetroSafe AI - Industrial Tank Safety & Anomaly Detection | Independent Project | [View Project](#)

Built an oil-tank monitoring and safety prototype using Factory I/O, Node-RED, Modbus TCP, FastAPI, and Isolation Forest, with E-STOP, Process Trip, leak/blockage detection, alarms, trends, and incident logging.

Instrument Air & CHU Monitoring Dashboard | Oil & Gas Case Study | [YouTube Demo](#)

Developed a Node-RED dashboard for a CHU Instrument Air case, monitoring pressure, dew point, airflow, particulate contamination, compressor/dryer status, alarms, and desiccant health.

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

Simulated 16 tanks and four pumping substations using Siemens PLC/HMI, TIA Portal, PLCSIM, Factory I/O, Node-RED, Modbus, P&ID/PFD, electrical drawings, and a live weather API.

LANGUAGES

Arabic - Native | English - Intermediate