

AHMED ALQUNBER

Computer Engineer | IoT and OT/IT Integration | Edge to Cloud Systems

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PROFESSIONAL SUMMARY

Computer engineer with an MSc in Embedded Systems and IoT and 2.5 years of industrial and research experience. At Schneider Electric I delivered OT to Cloud telemetry for industrial clients across the Eastern Province and was retained past my co-op term to finish live deployments. At KFUPM Research Institute I specified and built a research lab from concept to handover and was promoted to Center Coordinator within ten months. Alongside that I secured SAR 530,000 in sponsorship and delivered the first game development incubation program in the Eastern Province. CCNA and Azure Fundamentals certified, accredited by the Saudi Council of Engineers, AZ-104 in progress, and currently completing the Saudi Digital Academy Data Engineering Bootcamp under MCIT.

PROFESSIONAL EXPERIENCE

Schneider Electric | R&D Edge Analyst | Dhahran, Saudi Arabia

Jan 2023 to Dec 2023

University co-op trainee January to August 2023, retained on a part-time contract September to December 2023

- Delivered an OT to Cloud telemetry pipeline sustaining 90 percent data delivery across sites with intermittent connectivity, by integrating Modbus, OPC UA, MQTT, and LoRaWAN across 10+ edge devices.
- Improved availability at remote industrial sites by designing hybrid connectivity architecture pairing cellular links with satellite backup in a master and slave configuration.
- Resolved device to cloud connectivity and deployment faults across 30+ on site client visits in the Eastern Province, applying structured diagnostics across the OT and IT boundary.
- Cut manual inspection effort in blender operations with a Python and OpenCV computer vision module, and trained interns and client staff on the systems after handover.

KFUPM Research Institute, IRC Finance and Digital Economy | Center Coordinator | Dhahran

Jul 2024 to Dec 2025

Full time. Promoted to Center Coordinator in May 2025 from Lab Technician.

- Took a new research lab from concept to an approved procurement package by defining its purpose, users, and goals, specifying and selecting all equipment, and steering the design through institutional review.
- Initiated and administered 15+ center projects after promotion, reviewing all budgets and purchase requests and authoring new KPIs and operating policies.
- Kept the center audit ready across 20+ procurement operations and 30+ hardware and digital asset records under institutional compliance policy.

KFUPM Gaming+ | Event Leader, previously Game Development Committee Leader | Dhahran

Jul 2024 to Oct 2025

Student led initiative delivered alongside full-time employment and the MSc

- Secured SAR 530,000 in sponsorship from MCIT and Remal Ventures and delivered the first game development incubation program in the Eastern Province, acting as sole point of contact to the sponsor over seven months and producing three startups.
- Restructured a ten-committee organization under two co-leaders into six committees with delegated decision authority across 120+ members and introduced centralized task tracking.
- Organized and judged a national game jam drawing 170 registrations from 11+ cities and co-designed the NFC and MQTT gamification architecture for the event.

PROJECTS

End to End IoT Platform | MSc Thesis, Grade A+

2025 to 2026

- Built a 26-node edge to cloud platform: ESP32 nodes on FreeRTOS, a Raspberry Pi MQTT broker, a Node-RED telemetry dashboard, and a Python multi node simulator for load testing before hardware integration.
- Defined the device to cloud message schema, broker topic hierarchy, and provisioning flow with certificate-based device authorization, validated through integration tests.

Home Network and IP Surveillance Deployment

2025

- Ran and terminated Cat 6 cabling, configured router and mesh Wi-Fi, labeled switch ports, and integrated CCTV on a dedicated gateway for a full residential install.

Smart Vending Machine | BSc Graduation Project

2023

- Delivered a self-cooking vending machine with a cross-disciplinary team, contributing the HMI interface, embedded state machine firmware, and an owner dashboard for ingredient and maintenance tracking.

Cryptographically Secured Client-Server Communication

2022

- Built a Python client-server application using socket programming with SHA-256 hashing for message integrity, implementing a lightweight protocol with error handling.

CORE SKILLS

IoT and Industrial Protocols: MQTT, OPC UA, Modbus, CoAP, LoRaWAN, ZigBee, HTTP/REST, WebSocket, RS232/485, I2C, UART, SPI

Networking: CCNA, TCP/IP, VLANs, STP, VPN, OT and IT segmentation, structured cabling, Wireshark, Packet Tracer

Cloud and Edge: Azure (AZ-900), Google Cloud Platform, Docker, serverless, edge computing, Node-RED, Linux

Programming and Tools: Python, C, C++, C#, Java, SQL, JavaScript, OpenCV, TinyML, ESP32, Raspberry Pi, FreeRTOS, Git

Delivery: system architecture, device provisioning, field commissioning, requirements definition, procurement, documentation, client training

EDUCATION, TRAINING AND CREDENTIALS

MSc Embedded Systems and Internet of Things | KFUPM | GPA 3.77/4.00, Thesis Grade A+

May 2026

BSc Computer Engineering | King Fahd University of Petroleum and Minerals

Jan 2024

Data Engineering Bootcamp | Saudi Digital Academy, MCIT | In progress

2026

Saudi Council of Engineers Accredited Engineer (1006339) | CCNA, Cisco | Azure Fundamentals AZ-900 | AZ-104 in progress | GCP Core Infrastructure

PUBLICATION AND AWARDS

Alajlan A., Alqunber A., Osais Y. Design of a Novel Serious Game for the Detection and Measurement of Obsessive-Compulsive Disorder. Springer LNCS, GALA 2022. | Gold Award Co-Winner, ITEX 2022 | 1st Place, Global Game Jam 2022