

ABDALLAH WALEED KAMAL MOUSA SALEM

Artificial Intelligence & IoT Student

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SUMMARY

Third-year Artificial Intelligence student specializing in Internet of Things and Big Data Analytics, with hands-on professional experience in IoT systems development, data engineering, data analysis, and intelligent automation. Demonstrated ability to build end-to-end solutions — from embedded hardware to cloud-connected pipelines — and to lead cross-functional teams in national-level technology programs. Adept at extracting actionable insights from large datasets and deploying AI models in real-world applications.

EDUCATION

Specialist: Internet of Things & Big Data Analytics

Sep 2023 – Present

Menoufia National University, Faculty of Computers and Artificial Intelligence · Tuhk Tambisha - Berkt Elsabaa, Egypt · Overall Grade: Very Good

EXPERIENCE

Data Analysis Trainee – National Telecommunication Institute (NTI)

Feb 2026 – Present · Shibin El Kom

- Completed end-to-end data analytics workflows, including data collection, cleaning, transformation, and storytelling.
- Applied advanced SQL and Python (Pandas, NumPy, Matplotlib, Seaborn, Plotly) for data manipulation and statistical analysis.
- Designed interactive dashboards and performance reports using Power BI and Tableau, enabling data-driven business decisions.
- Performed descriptive, inferential, and regression analysis to identify trends and patterns in complex real-world datasets.

IoT Applications Developer (Intern) – Information Technology Institute (ITI)

Aug 2024 – Sep 2024 · Shibin El Kom

- Developed hardware-software integrated IoT applications using Arduino, environmental sensors, Bluetooth, and NRF communication modules.
- Designed and tested real-time sensor data acquisition systems with actuator control logic for embedded automation use cases.

IoT Applications Engineer (Intern) – National Telecommunication Institute (NTI)

Sep 2024 – Oct 2024 · Shibin El Kom

- Implemented IoT device communication using MQTT, HTTP, and REST protocols, with Python-based device management scripting.
- Applied network security and cyber defense principles to protect embedded IoT deployments against unauthorized access.
- Built and tested ESP8266/Arduino-based embedded systems for smart automation and remote monitoring applications.

PROJECTS

Smart Voice-Controlled Car – Python · NLP · Flutter · Flask · MQTT · ESP8266 · Arduino

- Designed and trained a custom bilingual (Arabic/English) NLP classification model achieving 93% command recognition accuracy.
- Integrated a Flutter mobile interface with a Flask REST backend and MQTT protocol for real-time, secure hardware control over ESP8266/Arduino.

Smart E-Commerce Behavior Analytics – PySpark · XGBoost · Big Data · ETL · Machine Learning

- Processed over 995,000 user interaction events using PySpark parallel ETL pipelines, improving overall scalability by 30%.
- Built an XGBoost predictive model achieving 96.7% accuracy for customer behavior classification; reduced pipeline runtime by 30% and improved insight extraction efficiency by 40%.

Sales Performance Dashboard – Power BI · DAX · Data Visualization · Business Intelligence

- Designed an interactive Power BI dashboard analyzing sales performance across regions, product categories, and time periods.
- Built calculated KPIs and DAX measures for revenue tracking, growth trend analysis, and top-performer identification, enabling executive-level reporting.

Food Marts Data Dashboard – Power BI · DAX · Data Cleaning · Retail Analytics

- Built a comprehensive Power BI dashboard for a retail food mart chain, visualizing inventory movement, sales volume, and outlet-level performance.
- Applied data cleaning and transformation techniques to ensure accuracy across multiple data sources, delivering clear operational insights to support inventory and sales strategy decisions.

Elserat Almostaqeem – Islamic Mobile App – Flutter · Firebase · REST API · Push Notifications · Mobile Development

- Developed a comprehensive Islamic companion app featuring a complete Quran reader (Hafs recitation, Uthmani script), accurate GPS-based prayer times, Azan notifications, and daily Hadith alerts.
- Implemented a smart notification system delivering Azkar, Salawat, and Tasbih reminders every 10 minutes around the clock, with dedicated Ramadan mode and Iftar dua alerts.

- Built advanced content-sharing functionality enabling users to export Quran verses and Hadiths as styled images shareable across WhatsApp, Facebook, and Telegram in one tap.
- Integrated a live 24/7 Quran radio stream, dark mode, bookmarking system, and Tafsir display for an ad-free, user-friendly experience.

LEADERSHIP

Team Leader – Digital Egypt Pioneers – National Program

2025 · Egypt

- Led a team of 23 students in a national digital innovation program; organized technical workshops and managed project delivery timelines.

Team Leader – ORCA Python Programming Competition – 1st Place / 18 Teams

2025 · National

- Guided a 3-member team to 1st place among 18 competing teams; coordinated task assignment, code architecture, and delivery under competition time constraints.

Team Leader – .NET Stack Program – Information Technology Institute (ITI)

2025 · Shibin El Kom

- Coordinated a cohort of 27 students, delegating responsibilities, facilitating communication between students and instructors, and promoting peer-to-peer learning.

SKILLS

IoT & Embedded Systems: Arduino, ESP32/ESP8266, Sensors & Actuators, MQTT, HTTP/REST, Real-Time Monitoring, Smart Automation

Data Analysis & Visualization: Python (Pandas, NumPy, Matplotlib, Seaborn, Plotly), SQL (Advanced), Excel (Power Query, Pivot Tables), Power BI, Tableau

Machine Learning & Big Data: XGBoost, Scikit-learn, NLP, PySpark, ETL Pipeline Design, Predictive Modeling

Networking & Security: CCNA Routing & Switching, Enterprise Networking, Network Security, Cyber Defense

Tools & Practices: Git & Version Control, Agile Methodology, HackerRank / LeetCode Problem Solving

Languages: Arabic (Native) · English (Professional Working Proficiency)

CERTIFICATIONS

Agyal Digital Egypt Pioneers — Ministry of Communications and Information Technology

Apr 2026

CCNA: Enterprise Networking, Security & Automation — Cisco Networking Academy

Oct 2025

CCNA: Routing and Switching — Cisco Networking Academy

Oct 2025

CCNA: Introduction to Networks — Cisco Networking Academy

Aug 2025

IoT Applications — National Telecommunication Institute (NTI)

Oct 2024

IoT Applications Developer — Information Technology Institute (ITI)

Sep 2024

Python Essentials 1 — Cisco Networking Academy

Oct 2024

Introduction to Network Security — MaharaTech – ITI MOOC

Jul 2024

Computer Network Fundamentals — MaharaTech – ITI MOOC

Jan 2024

Develop Custom Events & Plugins in MOT — MaharaTech – ITI MOOC

Aug 2024