

Ezz El-Din Emad

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Education

Alexandria University, Faculty of Computing and Data Science

Alexandria, Egypt

Bachelor's in Computing & Data Science

Jun 2027

- Relevant Coursework: Data Structures & Algorithms, Machine Learning, Database, Distributed Processing.

Training & Projects

Training:

IoT Software & Hardware Engineering - Field Training

Alexandria University, Faculty of Computers & Data Science

Jul 2025 - Aug 2025

- Completed a 7-week program covering embedded systems, cloud connectivity, and IoT architecture.
- Gained hands-on experience with ESP32, sensors, and PCB basics through PlatformIO and Wokwi labs.
- Explored MQTT, SPI, I2C, UART protocols, HiveMQ cloud integration, and Flutter mobile development.
- **Capstone Project (Team Lead): IoT Smart Pet Care System - [Link](#)**
 - Developed a Smart Pet Care System using ESP32 (C++) on PlatformIO, integrating load cell, IR, and water level sensors for real-time food weight, food storage, and water monitoring.
 - Implemented MQTT communication (HiveMQ) to stream live sensor data to a Flutter mobile app backed by Supabase and Flask, enabling instant alerts when food or water runs low.
 - Collaborated on hardware assembly, wiring, and prototype building with scheduled
 - Tech Stack: ESP32, C++, MQTT, PlatformIO, Flutter, Supabase, Flask.

Projects:

HR Employee Attrition Analysis Dashboard - [Link](#)

Nov 2025

- Identified high-risk groups (Sales Reps 39.8%, overtime workers 30.5%) by analyzing 1,470 employees across demographics and satisfaction metrics.
- Uncovered 5 key retention factors contributing to 16.12% attrition rate using DAX correlation analysis and interactive filtering.
- **Skills:** Power BI

Fashion MNIST Classifier - [Link](#)

June 2025

- Built an ML pipeline achieving 89.37% test accuracy after hyper-parameter tuning with Optuna (3 layers, 86 neurons).
- Launched a real-time Streamlit dashboard and recorded a reproducible workflow in Jupyter Notebook for future hand-off.
- **Skills:** Python, TensorFlow, Streamlit

Job Market Analysis - [Link](#)

May 2025

- Processed over 8,000 job listings with an automated SQL pipeline, uncovering seasonal hiring trends and high-growth sectors in Egypt and Saudi Arabia.
- Built 12 interactive visualizations with Plotly & Seaborn to present market dynamics and employer insights.
- **Skills:** Python, SQL Server, Streamlit

Skills

- **Languages & Databases:** Python, SQL, Java, R, JavaScript.
- **Data Science & AI:** TensorFlow, PyTorch, Scikit-Learn, Pandas, NumPy, Power BI, EDA, A/B Testing.
- **Cloud & Tools:** AWS (S3, EC2, Lambda), Hadoop, Git, Linux, Flask, Streamlit, VS Code, Jupyter.
- **Soft Skills:** Problem Solving, Team Collaboration, Technical Communication, Critical Thinking.

Certifications

- **Machine Learning Specialization** (Stanford & Coursera, 2024) | **AWS Academy Cloud Foundations** (2025)