# Aya Osama Taher Mokhar


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Top-ranked Mathematics and Computer Science graduate from Helwan University (CGPA: 3.877/4.0) with a strong foundation in mathematics, computer science, and artificial intelligence. Experienced in teaching, mentoring, and academic research, with excellent communication and teamwork skills. Committed to supporting undergraduate education, academic research, and student development as a Teaching Assistant.

## Education

**Bachelor of Science in Mathematics and Computer Science** Sep (2022) - Sep (2026)

*Helwan University – Faculty of Science.*

***CGPA:** 3.877/4.0 (**Ranked among the top students in the Department**)*

**Mathematics:** Calculus I–III, Linear Algebra, Real Analysis, Ordinary & Partial Differential Equations, Abstract Algebra, Numerical Analysis, Mathematical Modeling.

**Basic Sciences:** General Physics I & II, Mechanics I, General Chemistry I & II.

**Computer Science & AI:** Data Structures & Algorithms, Operating Systems, Computer Networks, Theory of Computation, Machine Learning, Artificial Intelligence, Natural Language Processing, Big Data Analytics.

**Graduation Project**

**SPECTRA: Multimodal AI System for Early ASD & ADHD Screening**

- Developed a multimodal AI system for early ASD and ADHD screening by integrating questionnaire responses, video analysis, and EEG data into a unified platform.
- Contributed to the development and integration of machine learning and deep learning models for behavioral, facial expression, and motion analysis.
- Designed and implemented secure backend features using Django REST Framework, PostgreSQL, Celery, and Redis, with authentication and role-based access control.
- Collaborated on a responsive web application and comprehensive system testing to support secure AI-assisted screening.

## Teaching & Leadership Experience.

**Head Coordinator and lecturer – "ممحاة" initiative** **January 2026 - February 2026**

• Organized and led a two-week Arabic language initiative for non-Egyptian university students.

• Designed the curriculum, coordinated instructors, managed logistics, and delivered instructional sessions.

**Online Volunteer Mathematics Teacher – Al-Kheir School for Education** **March 2025 - May 2025**

- Conducted virtual math lessons for grade 7 students as part of a community service initiative.
- Delivered interactive online sessions to support students' learning and improve their confidence in mathematics.

**Facilitator– LOT (Leaders of Tomorrow Digital Exchange program)** **June 2024 - September 2024**

Facilitated sessions for teenagers and young adults, teaching key skills in leadership, project planning, and teamwork, fostering personal development and guiding participants in applying these skills to real-world scenarios.

**Volunteer Member – IEEE Women in Engineering (WIE) Helwan Branch** **September 2023 - August 2024**

- Delivered workshops on SQL and Excel to fellow students, enhancing their technical and practical skills.
- Contributed to a season of events and activities that supported professional development and community

growth.
- Collaborated with peers in organizing initiatives promoting knowledge-sharing and personal development.

**Lecturer – Athar** **June 2024 - September 2024**
Taught science to students aged 5 to 16, making lessons engaging and enjoyable through hands-on experiments and visual aids.

## Internships and Training.

**IOT Intern -Information Technology Institute (ITI)** **(**14th – 18th Sep 2025)
- Learned IoT fundamentals and applied them using the MasterofThings platform.
- Developed IoT projects including a car parking detection system and a transportation booking system.
- Gained hands-on experience with IoT devices such as Minew G1 Gateway, Minew S1 Sensor, and Iotik 32B Controller.

**AI Intern - Information Technology Institute (ITI)** **(**30 Aug 2025 – 11 Sep 2025)
• Completed intensive training in AI, Machine Learning, Deep Learning, Computer Vision, and NLP.
• Completed NVIDIA's Getting Started with Deep Learning, gaining experience with TensorFlow, PyTorch, CNNs, RNNs, model evaluation, and optimization.

**AI Intern - National Research Center – Institute of Engineering and Renewable Energy**
(17th – 28th August 2025)
Explored AI, machine learning, NLP, wireless communication, and data analysis applications in research and industry.

**The Central Agency for Public Mobilization and Statistics (CAPMAS**) (10th – 14th August 2025)
• Analysed census data using Power BI and SPSS.
• Applied statistical methods for data visualization and decision support.

**Scientific Research from Beginning to Professionalism-Cairo University** (26 Jan 2025 – 2 Feb 2025)
Participated in the intensive training course Scientific Research from Beginning to Professionalism, organized by the service and support center for researchers, Musharrafa Amphitheatre, Faculty of Science, Cairo University

**Front end developer intern- DEPI (Digital Egypt Pioneers Initiative**) (April 2024 - Oct 2024)
Developed responsive web applications using Angular, HTML, CSS, Bootstrap, JavaScript, and REST APIs.

**Leaders of Tomorrow Digital Exchange Program *(Online International Youth Exchange)***
June (2023) - Sept (2023)
- Improved public speaking and teamwork skills.
- Analyzed global world problems and ways to decrease them
- Improved problem-solving and critical thinking.

## Online courses

**Edx - Analyzing and Visualizing Data with Power BI, Online Course** May - July 2026
Gained foundational skills in using Microsoft Power BI for data analysis and visualization, including data importing, cleaning, modeling, creating interactive reports, building dashboards, and presenting insights to support data-driven decision-making.

**Aspire - Harvard Business School, Online Course** December 2025
Completed a leadership and entrepreneurship programme focused on self-awareness, innovation, and

community problem-solving.

**AICE (AI Career essentials) - Alx, Online Course** December 2024
Completed a six-week AI Career Essentials programme covering practical AI tools and leadership, communication, and critical-thinking skills.

## Volunteering and Extra-Curricular Activities

**Member - The Researcher Project initiative** **February 2025 - Present**
- Contributed to an AI-related research manuscript currently under review for publication.
- Assisted in organizing scientific workshops and academic events.

**Student, IEEE RAS Helwan Student Branch** **Jan 2024 – Aug 2024**
Built Arduino-based robotics projects using SolidWorks, Proteus, and Arduino.

## Skills

**Programming:** Python, SQL, JavaScript, TypeScript
**Web Development:** Angular, HTML, CSS, Bootstrap
**AI & Data:** Machine Learning, Deep Learning, Computer Vision, NLP, Power BI, Data Analysis
**Tools:** Git, GitHub
**Soft Skills:** Communication, Leadership, Problem Solving, Teamwork

**Languages**
**Native Language:** Arabic
**Language:** English