

# Mohamed Khaled

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## EDUCATION

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**The American university in Cairo** - Cairo, Egypt

- *Bachelor of Science in Computer Science, GPA: 3.88/4* Sep 2024 – Dec 2028
- *Relevant Coursework:* Fundamentals of computing I & II, Applied Data Structures, Discrete Mathematics, Modern Algebra, Applied Probability

## EXPERIENCE & ACTIVITIES

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**Member, Academic Committee** | CSCE association | AUC | Cairo, Egypt Sep 2024 – Present

- Responsible for **planning** technical **sessions** and **events** aimed at fostering a community of aspiring developers within the university.

**Junior Researcher & Student/Postdoc Member** | New York Academy of Sciences | Virtual Sep 2023 - Present

- Collaborated with an **international** team of five researchers on a high-impact project, demonstrating strong **communication** and **teamwork** skills.
- Out of 142 teams, my team was part of **the top 11 Teams of Distinction**.

**GenAI Job Simulation** | BCG | Virtual on Forage Oct 2024

- Developed an AI-powered financial **chatbot** during job simulation for BCG's GenAI Consulting team, using **Python** and libraries like **pandas** for **data manipulation**.
- Extracted and analyzed **complex financial data** from 10-K and 10-Q reports, applying rule-based logic to deliver insightful, user-friendly financial analyses.

**Math Peer Tutor** | Asyut STEM Math Club | Asyut, Egypt Sep 2022 - July 2024

- **Led** peer tutoring sessions for **25–30 students**, employing **adaptive teaching strategies** to improve mastery of complex mathematical concepts.

## PROJECTS

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**Campus Map Navigator** | University Project | ([GitHub link](#)) Jan 2026

- Collaborated with a **team** to design and implement a multi-floor indoor **navigation system** modeling 1,395 nodes and 3,000+ edges using **graph** data structures and **JSON**.
- Developed a **C++17 backend** implementing **Dijkstra's** algorithm with optimized single-floor and cross-floor traversal, stair/elevator preference filtering, and nearest-location search.
- Built a **Django** (Python 3) **web application** with JavaScript and HTML5 Canvas for interactive map visualization; integrated the C++ engine via **subprocess** and **JSON API**.

**Super Mario Game** | University Project | ([GitHub link](#)) April 2025

- Collaborated with a **team** to develop a Mario game using **C++** and **Qt**, applying **OOP**, **data structures**.
- Managed the project with **Git** and **GitHub**, ensuring clean **version control**, and **collaborative** workflows.

**Sign-Speak Communicator** | High School Graduation Project | ([GitHub link](#)) Jan 2024

- Developed a real-time sign language interpreter, integrating an **object detection** model trained with **TensorFlow API** and a **text-to-speech** Python library.
- Achieved **82%** recognition accuracy and a **1.8** second response time, providing a portable, **Raspberry Pi**-based communication tool for individuals with disabilities.

## CERTIFICATIONS

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- **Career essentials in Generative AI** | *Microsoft and LinkedIn* Sep 2024

## TECHNICAL SKILLS

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- *Computer Languages and tools:* Python, Pandas, NumPy, Matplotlib, SQL, C, C++, TensorFlow, Git, GitHub, LaTeX
- *Skills:* Teamwork, Adaptability, Data structures, Algorithms, OOP, Problem solving, Machine Learning, Data analysis, Data engineering.