

KAREEM ASHRAF

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LINKEDIN PROFILE

SUMMARY

I'm a Computer Science and Artificial Intelligence student with a focus on Data Science. I have hands-on experience in Networking, networking (CCNA), and some cybersecurity tools. My technical skill set includes Python, Java, C/C++, Bash, SQL, and front-end technologies (HTML, CSS, JS). I've built and contributed to projects ranging from Linux-based college systems and network infrastructures to AI-powered games and inventory management applications. Passionate about networks, automation, and security, I'm constantly expanding my toolkit with tools like Wireshark, Nmap, and Notion to build efficient, real-world tech solutions.

WORK EXPERIENCE

2025

CCNA at National Telecommunication Institute (NTI)

a specialized educational and research institution focused on telecommunications, information technology, and related engineering fields

EDUCATION

2024-2027

Helwan National University

Faculty of Computer Science and AI

- Specialization in Data Science
- Studying Cybersecurity independently.

Bachelor of Science in Civil Engineering

City College of Engineering

- Relevant coursework in Structural Design and Project Management.

PROJECTS

Nov 2024-Jan 2025

Linux-Based College Management System

Developed a role-based college system in Linux using C, featuring three user types: Dean, Professor, and Student, each with distinct privileges.

Collaborated in a team, taking a leadership role in core development (file handling, user permissions, and system architecture).

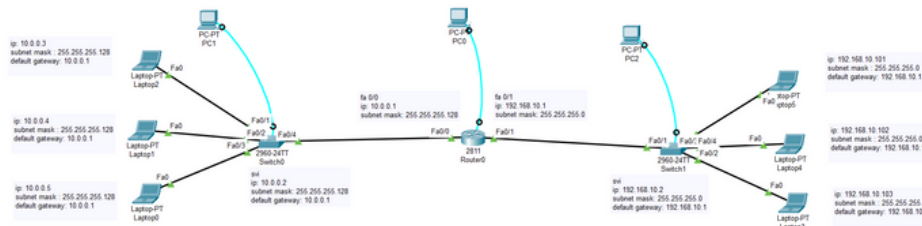
Streamlined college operations by automating administrative tasks (like, course registration, grade access, and faculty-student communication).

Implemented secure access control to ensure data integrity and role-specific permissions.

• Packet Tracer small firms Projects (NTI)

I have developed many projects using packet tracer to do networks starting from a simple peer-to-peer network till a small firms network using VLANs, Switches, Routers, Servers, Multilayer switches, SSH, Telnets,... etc. Used servers like, DNS, DHCP, Webservers.

Example:



APRIL 2025-MAY2025

• Advanced Tic-Tac-Toe AI (Multi-Algorithmic Approach)

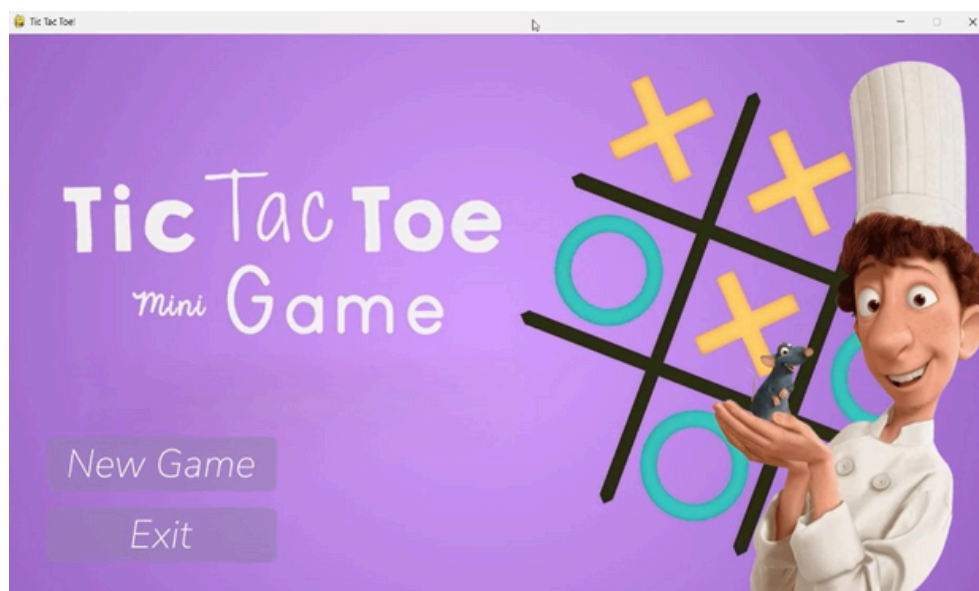
My team and I have developed an 8-level AI opponent using Minimax and heuristic optimizations in Python with a very creative GUI.

Implemented 8 distinct algorithms, including:

- Pure Minimax
- Minimax + Alpha-Beta Pruning (reduced search time by ~40%)
- Heuristic-driven variants (Block Fork, Block Threats)
- Optimized reductions (Symmetry Reduction, Heuristic Reduction)

Designed a scalable difficulty system for adaptive gameplay, testing each algorithm's win-rate and efficiency.

Achieved near-unbeatable AI at highest difficulty (win rate >95% vs. human players).



ADDITIONAL INFORMATION

- **Technical Skills:** Programming, Hacking, Linux, Word, Networks building, Teamwork, Time Management, Leadership, Effective Communication, Critical Thinking, Problem Solving, Creative Thinking
- **Languages:** English, Arabic, German (Basics)
- **Certifications:**
I Stem Robotics (2020)
Introduction to networks in CCNA (2025)