Mohamed Ahmed Mostafa

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EDUCATION

Zagazig University   Expected Graduation: 2026
Bachelor of Science in Computer Science – GPA: 3.1/4.0   *Zagazig, Egypt*

- Relevant Coursework: Data Structures & Algorithms, Operating Systems, Soft Computing, Distributed Systems, Software Engineering, Machine Learning, Deep Learning, Compiler Design.

EXPERIENCE

Software Engineering Intern (.NET Focus)   2024
Information Technology Institute (ITI)   *Egypt*

- Completed an intensive 150+ hour engineering track focusing on enterprise backend development.
- Architected scalable backend systems using **ASP.NET MVC** and SQL Server.

TECHNICAL PROJECTS

WDLC (Web Deep Learning Compiler) | *Python, TypeScript, WebGPU*   2025 – Present

- Developing a Deep Learning inference engine for browsers, bridging the gap between high-level Python and low-level graphics hardware.
- Engineered a **Python-based compiler** to parse PyTorch models and extract computational graphs for optimization.
- Implemented a **WebGPU runtime** in TypeScript to execute tensor operations directly on client-side GPUs.

BlitzMate Chess Engine | *Python, FastAPI, Bit manipulation*   2025

- Built a high-performance chess engine implementing **Alpha-Beta Pruning** and **Negamax** algorithms.
- Optimized state management using **Zobrist Hashing** and Transposition Tables.
- Exposed engine logic via a fast **UCI-compliant API** using FastAPI, integrated with a Pygame GUI.

Bosla - AI Learning Platform | *.NET 9, React, Architecture*   2025 – Present

- Designed a multilingual educational platform that generates dynamic learning roadmaps based on user goals.
- Constructed a **Onion Architecture** API and a **Python pipeline** to aggregate resources in English and Arabic.

Skyra - Weather Prediction Platform | *Python, FastAPI, LLM, NASA API*   2025

- Developed a backend platform for weather events with **LLM-powered** recommendations and **NASA API** integration.

Enterprise E-Commerce API | *ASP.NET MVC, SQL Server, SOLID*   2025

- Developed a secure backend using **SOLID principles**, Repository Pattern, and Identity for complex order logic.

Villa Management System | *ASP.NET Web API, MVC*   2025

- Engineered a full-stack system with a RESTful API backend and MVC client application using asynchronous techniques.

TECHNICAL SKILLS

Languages: C#, Python, C++, TypeScript, SQL, Go (Basics)
Backend Engineering: ASP.NET Core, FastAPI, Entity Framework, RESTful APIs
Data & AI: PyTorch, Deep Learning Concepts, SQL Server, PostgreSQL, Redis, LLM Integration
Systems & Tools: Git, Docker, CI/CD, Azure, Linux, WebGPU, Compilers
Core Concepts: Data Structures, Algorithms, OOP, Design Patterns, System Design, Memory Management

ACHIEVEMENTS & COMMUNITY

Competitive Programming: Solved 350+ problems on Codeforces/LeetCode; Active participant in ICPC community.
Technical Content: Creator of "DarkCipher00" (YouTube), teaching Algorithms and Data Structures to the Arabic community.
Mentorship: Mentor and Instructor for the ICPC Zagazig Community, training junior students in problem-solving.
Chess: Ranked top 5% (1700+ Rating) on Chess.com; applies game theory concepts to software strategy.