

Mohamed Ahmed Mostafa

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EDUCATION

Zagazig University

Zagazig, Sharqia, Egypt

Bachelor of Science in Computer Science, Faculty of Computers and Informatics – GPA: 3.1/4.0

2022 – 2026

- Relevant Coursework: Data Structures & Algorithms, Database Systems, Software Engineering, Web Development (.NET), Operating Systems, Machine Learning, Deep Learning (Current)

EXPERIENCE

.NET Development Intern

2024

Information Technology Institute (ITI)

Egypt

- Completed 150+ hours intensive training in advanced .NET technologies and enterprise development
- Mastered SQL Server, C#, Advanced C#, LINQ, Entity Framework Core, and ASP.NET MVC

PROJECTS

BlitzMate Chess Engine | Python, FastAPI, Pygame, PyPy3

2025 – Present

- Classical chess engine with Negamax algorithm and Alpha-Beta pruning for optimized game tree search
- Zobrist hashing for transposition table efficiency; interactive Pygame GUI for real-time gameplay
- FastAPI backend with UCI protocol for engine integration; PyPy3 JIT compilation for performance optimization

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

2025

- Backend platform for weather-based event planning with LLM-powered intelligent recommendations

Bosla - AI Learning Roadmap Generator | .NET, React, RESTful API

2025 – Present

- Full-stack platform generating personalized learning roadmaps with aggregated multilingual educational resources
- RESTful API backend managing user data and dynamic learning path construction supporting English and Arabic

WDLC (Web Deep Learning Compiler) – DL Inference on Browsers | Python, TypeScript, WebGPU

2025 – Present

- Developed a two-part system for deep learning inference in browsers: Python-based compiler for computational graph extraction and WebGPU runtime in TypeScript for efficient client-side execution.

E-Commerce Platform | ASP.NET MVC, .NET 9, SQL Server

2025

- Full-featured e-commerce platform with secure authentication using Repository Pattern and SOLID principles

Villa Management System | ASP.NET Web API, MVC

2025

- Full-stack system with RESTful API backend and MVC client application using asynchronous techniques

TECHNICAL SKILLS

Languages: Python, C#, C++, TypeScript, Go, SQL, HTML/CSS

Backend Frameworks: .NET Core/9, ASP.NET MVC/Web API, FastAPI, Entity Framework Core

Machine Learning: PyTorch, LLM Integration, WebGPU, Deep Learning

Databases & Cache: SQL Server, PostgreSQL, Redis

Architecture & Design: N-tier, Repository Pattern, Onion Architecture, Clean Architecture, SOLID, RESTful APIs, Design Patterns

Developer Tools: Git, GitHub, Docker, CI/CD

Core Competencies: Data Structures, Algorithms, Competitive Programming

EXTRACURRICULAR ACTIVITIES

ICPC Zagazig Community: Mentor and Instructor

Content Creator: YouTube channel DarkCipher00, creating educational content on algorithms, data structures, and competitive programming

Competitive Programming: Active Codeforces and LeetCode participant

Chess: 1700+ Chess.com rapid rating with 4+ years competitive play experience

Open Source: 10+ public repositories on GitHub with active open-source contributions