

Ahmed Mohsen

Engineering Student / Competitive Programmer

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Codeforces: Profile

Personal Statement

High-achieving Engineering Student at Université Française d'Égypte (UFE) specializing in the mathematical foundations of AI and high-performance computing. Recipient of the **Schneider Electric & UFE Excellence Scholarship**. Proven analytical capability through international math competitions and a 3.83 GPA. Expert in algorithmic optimization (C++/STL) and seeking an internship to apply Signal Logic and RAG-based AI architectures to complex industrial problems.

Education

- 2025–Present **Preparatory Year - Engineering Track**, Université Française d'Égypte (UFE), Cairo
Awards: Recipient of the Schneider Electric & UFE Excellence Scholarship.
Core Studies: Advanced Calculus, Linear Algebra, and Engineering Mathematics.
- 2022–2025 **STEM High School Diploma**, Obour STEM School, Obour, GPA: 3.83/4.00
Focus: Rigorous curriculum centered on the scientific method and Capstone research projects in applied sciences.

Technical Experience & Projects

- 2025–Present **Active Member**, ICPC UFE Community
Mastering Phase 1 (STL) with a focus on std::set, std::map, and priority_queue for high-efficiency memory management.
Milestone: Solved +200 problems on Codeforces focusing on Dynamic Programming, Graph Theory, and Bit Manipulation.
- Feb 2026 **AI Developer**, Customer Support AI System — [In Progress]
Engineering an end-to-end AI agent using Transformers and Retrieval-Augmented Generation (RAG) to eliminate LLM hallucinations.
Data Pipeline: Implementing sentiment analysis and data preprocessing on complex SaaS datasets via the ML & AI Discovery Camp (**Active: Session 6/10 completed**).
- Nov 2023 **Hardware Developer**, Integrated Sensor & Response System
Designed a state-machine logic to handle 7+ simultaneous sensor inputs using a custom IR-receiver command protocol.
Optimization: Engineered C++ code for real-time processing of analog signals into digital diagnostics; verified the full hardware-software ecosystem via Tinkercad simulation.

Technical Skills

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|-------------|--|
| Development | C++ (STL Expertise), Python (NumPy, Pandas, AI Logic), C# (Basics) |
| Theory | Discrete Mathematics (Logic, Set Theory, Graph Theory), Calculus, Linear Algebra |
| Engineering | Data Structures, Algorithm Optimization, Logic Design, OOP, Signal Logic |
| Tools | CLion, PyCharm, VS Code, Google Colab, Tinkercad, Git |

Honours & Certifications

- 2024 **AI Training Certification**, *Egyptian Academy for Engineering*
Focused on Machine Learning pipelines and neural network foundations.
- 2023 **Arduino & Robotics Diploma**, *EGY STEM and El-Forsa Academy*
Certified in hardware-software interfacing and robotic control systems.
- 2022 **American Math Olympiad (AMO)**
Participation Certificate — Advanced competitive problem solving.
- 2022 **Beaver Competition (MCIT)**
Recognition for Informatics and Algorithmic Thinking.

Languages

Arabic	Mother Tongue	
English	B1/B2	<i>Professional Working Proficiency</i>
French	A1	<i>Basic User (Active Learner)</i>