Ahmed Afifi

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Objective

Software Engineer and Computer Science student at Nile University with a 3.99 GPA and experience delivering commercial backend services and cross-platform desktop applications. Proficient in ASP.NET Core, Avalonia, and Flutter. Awarded 2nd place at the Undergraduate Research Forum (UGRF) for CodeQuiz.

Education

Nile University, Giza, Egypt
Bachelor of Science in Computer Science *Expected Graduation: July 2027*
GPA: 3.99

Experience

Benaa Academy *2026 – Present*
Software Engineer

- Designed and developed the academy's desktop application and supporting backend services from the ground up, contributing to production software.
- Developed and maintained Windows and macOS applications, delivering improvements to usability, reliability, and performance.
- Collaborated with stakeholders and engineers to turn requirements into tested features and resolve issues identified in production.
- Supported macOS release preparation, including TestFlight testing, quality assurance, and responding to App Store review feedback.

Vodafone *July – August 2025*
Software Development Intern – TOBi Chat Team

- Developed a scalable echo bot utilizing the Microsoft Bot Framework.
- Engineered a weather bot using Groq AI to extract user intents and entities for real-time data retrieval.
- Architected a Retrieval-Augmented Generation (RAG) system integrated with Groq for general-purpose AI assistants.

Samsung Innovation Campus *July – September 2024*
IoT Intern – Smart Home System

- Engineered a 10,000+ line IoT ecosystem in one week, integrating real-time APIs and mobile control.
- Developed a RESTful API using ASP.NET Core to manage live sensor data and device states.
- Built a Flutter-based mobile application for real-time telemetry monitoring and remote device automation.

Skills

- **Languages:** C#, Dart, C++, Python, JavaScript/TypeScript, Java, Verilog
- **Frameworks:** ASP.NET Core, Avalonia, Flutter, .NET MAUI, Angular, WPF, EF Core, SignalR, PyTorch
- **Databases & Cloud:** PostgreSQL, SQL Server, MySQL, Firebase, Docker, GitHub Actions (CI/CD)
- **Tools:** Linux (Ubuntu/Arch), Monaco Editor, Groq AI, Arduino, Raspberry Pi, Vivado

Projects

CodeQuiz *2nd Place, Undergraduate Research Forum (UGRF)*

A modern coding assessment platform with AI-powered insights and secure execution.

- Developed a .NET MAUI desktop client and an Angular landing page with automated GitHub release fetching.
- Engineered an automated grading engine evaluating submissions in a secure **Docker-based sandbox**.
- Integrated **Monaco Editor** with per-question configurations for IntelliSense to ensure exam integrity.
- Leveraged **Groq AI** for test-case generation and qualitative assessments flagging *TestcaseGaming* or *IncorrectLogic*.
- Architected real-time sync using **SignalR** for live attempt tracking and automated submissions.

ahmed-moh-afifi.github.io/CodeQuiz *github.com/Ahmed-moh-Afifi/CodeQuiz*

Universe

A full-scale social media platform featuring real-time communication and scalable architecture.

- Engineered a high-performance **ASP.NET Core** backend with a **Flutter** frontend (30,000+ lines of code).
- Developed an integrated real-time chat system with low-latency messaging and multimedia sharing.
- Implemented complex data modeling and efficient API endpoints for social media workloads.

github.com/Ahmed-moh-Afifi/Universe

Not-Micrograd

A tiny scalar-valued autograd engine and neural net library built from scratch with a PyTorch-like API.

- Implemented backpropagation and auto-differentiation logic for scalar values.
- Developed a simple neural network library on top of the engine to demonstrate functionality.

github.com/Ahmed-moh-Afifi/Not-Micrograd

Achievements

- **2nd Place, UGRF:** Awarded for CodeQuiz in the Software Engineering course at Nile University.
- **Ranked 1st, EOI Qualifications:** Placed first in the Egyptian Olympiad in Informatics qualifications (Grade 9).