Ahmed Mohamed Ahmed Elkelany

Computer Engineering Student

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PROFESSIONAL SUMMARY

Motivated Computer Engineering student at Arab Academy for Science, Technology & Maritime Transport (AAST) with hands-on experience in software development, embedded systems, cybersecurity, and network design. Demonstrated ability to deliver full-stack applications, distributed IoT systems, and compiler implementations from concept to completion. Eager to apply strong analytical and problem-solving skills to contribute to real-world engineering challenges.

EDUCATION

Arab Academy for Science, Technology & Maritime Transport (AAST) **2023 – 2027**

Bachelor of Science in Computer Engineering | Giza, Egypt

- Relevant Coursework: Data Structures & Algorithms, Database Systems, Operating Systems, Embedded Systems, Computer Networks, Compiler Theory, IoT

PROFESSIONAL EXPERIENCE

Cybersecurity Intern **July 2026 (1 month)**

Orascom Development

- Supported Security Operations Center (SOC) activities by monitoring and analyzing security logs across network and endpoint systems to identify potential threats.
- Investigated and triaged security alerts, correlating log data from multiple sources to distinguish genuine incidents from false positives.
- Assisted in incident response procedures, documenting findings and escalation steps in line with organizational security protocols.
- Gained hands-on exposure to enterprise-grade SIEM and log analysis tools, strengthening practical knowledge of threat detection and monitoring workflows.

TECHNICAL SKILLS

Programming Languages: C++, C#, Java, Python

Tools & Software: Visual Studio, Git & GitHub, Microsoft Office Suite (Word, Excel, PowerPoint, Access)

Technical Areas: Embedded Systems, IoT, Database Design, Compiler Theory, Mesh Networking, REST APIs, SOC Monitoring, Incident Response

Concepts: Object-Oriented Programming (OOP), Data Structures & Algorithms, Agile Development, Version Control

PROJECTS

Complete Pharmacy Management System **C#, SQL Server, Visual Studio**

- Designed and developed a full-featured pharmacy management system serving 3+ user roles (admin, pharmacist, cashier) with a relational SQL Server database backend.
- Implemented inventory tracking module reducing manual stock checks by automating low-stock alerts and reorder triggers.
- Built prescription management workflows and a user-friendly interface, reducing data entry time by an estimated 40% compared to manual processes.
- Applied normalization principles to design a database schema with 10+ tables, ensuring data integrity and minimizing redundancy.

Real-Time Air Quality Mesh Network **Python, IoT Protocols, Mesh Networking**

- Architected and deployed a distributed sensor mesh network across 5+ nodes for continuous real-time air quality monitoring of CO2, humidity, and particulate matter.

- Implemented automated alerting mechanisms that trigger notifications when pollutant thresholds are exceeded, improving response time to hazardous conditions.
- Developed a live data aggregation pipeline processing sensor readings every 30 seconds with < 2% packet loss across the mesh topology.

Complete Compiler Implementation **C++, Compiler Theory, CFG/LL Parsing**

- Built a fully functional compiler from scratch, implementing all major phases: lexical analysis (tokenizer), syntax parsing using CFG and LL parse tables, and semantic analysis.
- Developed an intermediate code generation module producing optimized 3-address code, supporting expressions, conditionals, and loops.
- Achieved 100% pass rate on a suite of 50+ test cases covering edge cases in grammar rules and type checking.

Smart Automated Watering System **Embedded C, Sensors, Microcontroller**

- Developed an intelligent irrigation system using a microcontroller that reads soil moisture and temperature sensors to automate watering schedules.
- Reduced water usage by approximately 30% through threshold-based automation versus fixed-timer irrigation.
- Integrated multiple sensor types and implemented interrupt-driven programming to ensure real-time responsiveness with < 500ms latency.

SOFT SKILLS

Problem Solving | Analytical Thinking | Teamwork & Collaboration | Time Management | Communication | Adaptability | Attention to Detail

LANGUAGES

Arabic: Native / Mother Tongue

English: Excellent (C1) — proficient in reading technical documentation, writing professional reports, and business communication