

# Ahmd Fahs

Software Engineer – Backend Systems

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## Professional Summary

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Software Engineer with strong foundations in systems programming, networking, and C/C++, plus web development experience (WordPress, Laravel, Tailwind). Experienced in building Unix-based applications, containerized infrastructures, and client-server systems from scratch. Trained in a high-pressure, peer-driven environment (42 Beirut) with focus on performance, reliability, and clean architecture. Actively pursuing expertise in DevOps, cloud computing, automation, and agentic AI systems.

## Professional Experience

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**Programming Instructor & Technical Tutor** Nov 2022 – Present

*Phoenicia University & Community Programs*

- Selected by faculty for the Peer Support Program based on technical proficiency and communication skills
- Mentored 30+ university peers in advanced programming courses, and algorithmic problem-solving and OOP, earning "Outstanding Peer Tutor" recognition in 2023
- Improved student pass rates through targeted one-on-one tutoring and structured workshop delivery
- Designed and executed 12-week coding curriculum for 100+ students aged 7-16, teaching Arduino robotics and Python fundamentals

## Technical Projects

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**Inception – Containerized Infrastructure with Docker** GitHub

- Designed and deployed a multi-container Docker infrastructure using Docker Compose
- Configured Nginx, application services, and persistent volumes following Linux best practices
- Implemented isolated networking, environment variables, and service orchestration
- Gained hands-on experience with containerization, DevOps workflows, and system reliability

**IRC Server – C++ Network Application** GitHub

- Built a fully functional IRC server in C++ implementing the core IRC protocol
- Implemented TCP socket communication, client authentication, channels, and command parsing
- Managed multiple concurrent clients with robust error handling and protocol compliance
- Strengthened understanding of network programming, concurrency, and server architecture

**Cub3D – 3D Graphics Rendering Engine** GitHub

- Developed a raycasting-based 3D game engine in C inspired by Wolfenstein 3D
- Implemented real-time rendering, player movement, collision detection, and texture mapping
- Optimized performance through efficient memory management and math-heavy computations
- Built a strong foundation in low-level graphics, linear algebra, and optimization

**C++ Object-Oriented Programming Modules (00-09)** 42 Beirut

- Completed an intensive series of C++ projects focused on modern OOP principles
- Applied RAII, inheritance, polymorphism, templates, and STL containers
- Designed extensible, maintainable codebases following SOLID principles
- Strengthened transition from procedural C to production-grade C++ design

## Publications & Recognition

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**1st Place – 42 Beirut Technical Writing Competition** June 2025

*"AI Instead of Wasta: A Lebanese Dream of a Fair Government"* – Published on Medium

- Authored thought leadership article exploring AI applications in governance, combating corruption, and promoting meritocracy
- Article: Read on Medium

## Education

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**42 Beirut - Level 8, 42 Core Curriculum - Architecture of Digital Technologies Program** May 2025 – Present

- Currently progressing through a rigorous, peer-driven software engineering curriculum with emphasis on C/C++ programming, algorithms, data structures, memory management, and Unix/Linux systems
- Gaining hands-on experience through advanced project-based learning in systems programming, networking fundamentals, graphics programming, containerization, and cybersecurity concepts
- Participated in specialized Mobile Development and Cybersecurity Piscines, covering reverse engineering fundamentals, low-level debugging, and security-oriented programming concepts
- Developing and delivering complex individual and team-based projects, applying software design principles, performance optimization, and structured peer code reviews

**Phoenicia University, BS in Computer Science** Sept 2022 – June 2024

- Completed advanced coursework in Data Structures, Algorithms, Operating Systems, Database Systems, Computer Networks, and Software Engineering
- Active member of Robotics Club and IEEE Student Branch

## Technical Skills

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**Programming Languages:** C (Advanced), C++ (OOP, STL), Java, Python, PHP, Dart, Shell Scripting, HTML/CSS

**Technologies & Tools:** Git/GitHub, Linux/Unix, Docker, Docker Compose, WordPress, Flutter, Laravel, Arduino, Make, Valgrind, GDB

**Core Competencies:** Object-Oriented Programming, Data Structures & Algorithms, System-Level Programming, Memory Management (RAII), Process & Signal Management, Concurrent Programming, Socket Programming, Network Protocols (TCP/IP, IRC), Client-Server Architecture, Design Patterns (SOLID), Debugging & Testing, Performance Optimization

**Cloud & DevOps:** AWS (Certified Cloud Practitioner), Containerization, Service Orchestration, CI/CD Concepts

## Certifications

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**AWS Certified Cloud Practitioner**, Amazon Web Services Sept 2025

- Validated foundational knowledge of AWS Cloud architecture, services, security, pricing models, and cloud deployment best practices
- Credential ID Link

**EECE230X – Introduction to Computation and Programming**, American University of Beirut Jan 2025

- Completed certified course covering Python fundamentals, object-oriented programming, data structures, and algorithmic problem-solving

**Elements of AI for Business**, MinnaLearn Aug 2025

- Completed course on AI applications in business strategy, machine learning fundamentals, and responsible AI adoption
- Credential ID Link