

Khaled Hammoud

42 Beirut Student – Level 4

+961 81 820 764

• Khaledhmmddd123@gmail.com • linkedin.com/in/khaled-hammoud • github.com/khaled7172

Profile Summary

Computer Science student at LIU (graduating 2026) and Level 4 student at 42 Beirut. Focused on systems programming, real-time applications, and applied LLM tooling. Seeking a software engineering internship or junior role in backend, systems, or AI engineering. Based in Beirut, Lebanon.

Education

42 Beirut – Level 4	2024 – Present
<i>42 Core Curriculum - Architecture of Digital Technologies Program</i>	<i>Beirut, Lebanon</i>
Lebanese International University	2023 – 2026
<i>Bachelor of Science in Computer Science</i>	<i>Beirut, Lebanon</i>

Selected Projects

LIU Chat (FYP) | *Flutter, Node.js, TypeScript, Supabase, WebSockets* Feb 2026 – Jun 2026

- Built a real-time student messaging platform with REST + WebSocket architecture, supporting 700+ structured chat rooms across majors and courses
- Implemented secure authentication using OTP-based login, JWT sessions, and database-level email domain enforcement with Supabase RLS policies
- Designed end-to-end encrypted private messaging using X25519 key exchange and AES-256-GCM, ensuring server-side zero knowledge of message content

Codexion | *C, Multithreading, System Programming* March 2026 – April 2026

- Built a multithreaded concurrency simulation in C using pthreads, mutexes, and condition variables to model competing workers sharing limited resources
- Implemented custom synchronization system with FIFO/EDF scheduling, priority queue logic, and strict resource arbitration rules
- Designed deadlock-free resource handling with thread-safe logging, precise timing control, and monitor thread for failure detection and shutdown

Call Me Maybe | *Python, LLM Systems, NLP* February 2026 – March 2026

- Built a function-calling system translating natural language into structured function calls using a small language model (Qwen3-0.6B)
- Implemented constrained decoding to enforce strict JSON schema generation at token level, ensuring 100% valid structured output
- Designed pipeline for prompt parsing, function selection, and typed argument extraction with robust error handling and model-agnostic execution

Push Swap | *C, Algorithms, Data Structures* December 2025 – February 2026

- Developed a stack-based sorting program under strict operation constraints using C
- Implemented optimized sorting strategies and algorithmic complexity analysis to reduce operation count
- Applied low-level memory management, debugging, and performance optimization techniques

Technical Skills

Languages: C, Python, JavaScript, TypeScript, Java, SQL, HTML/CSS

Developer Tools: VS Code, Git, GitHub, Vim, Docker, Make, GDB, Valgrind

Frameworks/Technologies: Flutter, Node.js, REST APIs, WebSocket, Unix/Linux Systems, Shell Scripting

Project Management: Jira, Git Workflows

Core Competencies: Algorithms, Data Structures, Memory Management, Debugging, Problem Solving

Languages

Arabic: Native

English: Fluent