

# KHALED HAMMOUD

Beirut, Lebanon

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## Profile

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Computer Science student at LIU and 42 Beirut, passionate about systems programming and backend development. Experienced in low-level C programming through 42's rigorous curriculum, with a growing skill set in web and mobile development. Driven by a strong interest in building efficient, scalable software systems.

## Education

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### Lebanese International University

*Bachelor of Science in Computer Science*

**2023 – 2026**

*Beirut, Lebanon*

### 42 Beirut

*42 Core Curriculum*

**2024 – Present**

*Beirut, Lebanon*

## Projects

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### Push Swap | *C, Algorithms, Data Structures*

**December 2025**

- Developed an efficient sorting algorithm program that sorts data on a stack using a limited set of operations.
- Implemented optimal sorting algorithms to minimize the total number of operations required.
- Applied algorithm optimization techniques and complexity analysis to achieve best-case performance.

### Get Next Line | *C, File I/O, Static Variables*

**November 2025**

- Built a function that reads and returns a single line from a file descriptor efficiently across repeated calls.
- Implemented buffer management and static variables to handle multiple file descriptors simultaneously.
- Developed deep understanding of file operations, memory management, and edge case handling in C.

### Ft\_printf | *C, Variadic Functions, String Formatting*

**November 2025**

- Recreated the standard C library `printf` function with support for multiple format specifiers.
- Implemented variadic functions to handle a variable number of arguments and different data types.
- Strengthened understanding of type conversion, string manipulation, and low-level output operations.

### Libft | *C, Data Structures, Memory Management*

**October 2025**

- Created a comprehensive C library reimplementing 40+ standard library functions from scratch.
- Implemented string manipulation, memory operations, linked lists, and type conversion functions.
- Mastered memory allocation, pointer manipulation, and edge case handling in C programming.

## Technical Skills

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**Languages:** C, Python, Java, PHP, HTML/CSS, JavaScript, SQL

**Frameworks:** Flutter

**Databases:** MySQL, PostgreSQL

**Developer Tools:** VS Code, Git, Vim, Makefile, GDB, Valgrind, Docker, Postman

**Technologies:** Unix/Linux Systems, GitHub, Shell Scripting

**Project Management:** JIRA

**Core Competencies:** Algorithms, Data Structures, Memory Management, OOP, REST APIs, Agile/Scrum, Problem Solving, Debugging

**Soft Skills:** Problem Solving, Critical Thinking, Time Management, Communication, Collaboration

## Certifications

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### Cisco Networking Academy

*Network Technician Career Path*

**January 2026**

### Cisco Networking Academy

*CCNA: Switching, Routing and Wireless Essentials*

**January 2026**