

# Nour Fakh

42 Student – Level 5+

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## Education

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### 42 Beirut - Level 5+

April 2025 - Present

42 Core Curriculum - Architecture of Digital Technologies Program

### Beirut Arab University

September 2023 - Present

Bachelor in Computer Engineering

### International Baccalaureate Diploma

September 2021 - May 2023

Focus on research, application, and analysis

## Selected Projects

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### Cub3d | 3D Raycasting Game Engine

January 2026

- ▢ Developed a first person 3D maze render from a 2D map in C, inspired by Wolfenstein
- ▢ Implemented raycasting to create a first person view, using DDA algorithm
- ▢ Handled moves, rotations, and constant input
- ▢ Worked as a team using **git** for version control

### Minishell | Bash Implementation from Scratch

November 2025

- ▢ Created a functional bash shell in C handling parsing, execution, signals, and pipeline management using low level functions
- ▢ Managed memory and crashes across a large program
- ▢ Worked as a team using **git** for version control

### Push Swap | Optimized sorting algorithm

June 2025

- ▢ Created a number sorting algorithm using 2 stacks, focused on manipulating data structures and operations and **time complexity**
- ▢ Focused on both small and large datasets

### Philosophers | C solution for the philosophers dining problem

December 2025

- ▢ Handled **thread** and **mutex** synchronization
- ▢ Eliminated data races and deadlocks
- ▢ Achieved precise timing control for 200+ philosophers

### Workout Tracker | Java tracker and calorie manager

December 2024

- ▢ Used **object-oriented** programming principles to create a workout tracker
- ▢ Implemented user specific calorie calculation and workout logging
- ▢ Explored different libraries finding the most optimal solution

## Technical Skills

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

**Developer Tools:** VS Code, Eclipse

**Technologies/Frameworks:** Linux, GitHub, WordPress

**Project Management tools:** JIRA

## Relevant Coursework and Workshops

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- ▯ Jira Project Management, CMA CGM **July 2025**
- ▯ ReactJS Workshop, 42 Beirut **July 2025**
- ▯ Design and Analysis of Algorithms, BAU **March 2025**
- ▯ Software Engineering, BAU **March 2025**
- ▯ Database Systems, BAU **November 2024**

## Extracurricular Activities

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### Ahla Fawda

*Volunteer*

- ▯ Helped distribute food among children and families
- ▯ Helped host events (e.g. Halloween Parade)

## Languages

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Arabic: Native

English: Advanced