

# Ali Itawi

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github.com/ITAXBOX

## Experience

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### Software Engineer Intern @ Murex

Jan 2025 - Present

- Develop and maintain end-to-end automated test suites for enterprise-grade financial applications.
- Validate internal frameworks and mission-critical systems to ensure performance and regression stability.
- Design scalable test architecture with reusable components and robust selectors.
- Integrate automated testing workflows within CI/CD pipelines to support continuous delivery.

## Projects

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### CodeForge: Automated Project Generator

Github: Code-Forge

- Developed a Spring Boot backend that generates full-stack projects in under 1 minute, streamlining setup.
- Built dynamic file and directory creation with templates for Java, frontend, and database configurations.
- Implemented robust regex-based input parsing and validation to ensure precise project scaffolding.
- Created Next.js frontend scaffolding to provide modern, responsive UI templates.
- Optimized code execution and integrated AI-driven DeepSeek API for faster, intelligent code suggestions.

### ChessMaster

Live: ChessMaster

- Developed a fully functional chess engine with all official rules, hosted via a Spring Boot backend for web access.
- Optimized game state management and move calculations for fast, smooth gameplay.
- Applied optimization techniques to improve move calculation speed and overall engine performance.
- Wrote 65+ unit tests to ensure correctness and reliability of complex game mechanics.

### MiniShell

Github: MiniShell

- Engineered a fully interactive Unix shell from scratch in C, handling user input and command execution.
- Designed a robust parser and tokenizer capable of correctly interpreting complex shell syntax.
- Implemented low-level process and signal management by manually creating and synchronizing child processes, and handling terminal signals to replicate real shell behavior

### Reverse-Me

Github: Reverse-Me

- Performed in-depth reverse engineering of compiled ELF binaries without source code.
- Analyzed low-level assembly instructions to reconstruct program logic and control flow.
- Recreated equivalent C source code by interpreting binary behavior and validation mechanisms.

## Skills

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

**Advanced Skills:** OOP, Data Structures, Algorithms, Solid Principles, Design Patterns

**Frameworks:** Spring Boot, Express.js, Next.js, Laravel

## Education

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**42 Beirut Core Curriculum**, Architecture of Digital Technologies Program

May 2025 - Present

**Al Maaref University**, BS in Computer Science

Sept 2022 - May 2025

**Lebanese University**, BS in Mathematics

Sept 2018 - Jun 2022

## Certificates & Achievements

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### AUB Chess Tournament - 2<sup>nd</sup> Place

- Earned top ranking in a university chess competition, showcasing strategic and analytical thinking.

### LeetCode Competitive Programming

- Solved 784+ problems across all difficulty levels and earned 18 achievement badges.
- Holder of the **365 Days Badge**, demonstrating year-long consistency and daily problem-solving discipline.

### Mastering Spring Boot - Udemy

- Trained in RESTful APIs, JPA, security, and Dockerized Spring applications.

### CS50: Python & Database - Harvard (Online)

- Completed Harvard's CS50 courses on Python programming and relational databases, with practical projects.

## Relevant Coursework and Workshops

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### 42 Beirut Extracurricular Cybersecurity Piscine

Nov 2025

- Analyzed compiled C binaries using GDB, tracing assembly instructions to understand program logic.
- Conducted malware analysis and TCP-based experiments in controlled environments to study vulnerabilities.