

# Abdallah Aloush

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github.com/AbdallahAloush

## Education

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**Alexandria University**, BS in Computer and Communications Engineering

2018 – 2023

- GPA: 3.2/4.0

## Experience

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**Mandatory Military Service**, Egyptian Armed Forces

July 2024 – Sept 2025

**Back End SWE Intern**, TrianglZ LLC

Feb 2023 – Apr 2023

- Built multiple verification endpoints using Ruby on Rails, resulting in a more efficient verification process.
- Implemented authorization policies using Pundit, enforcing compliance with data access rules.
- Wrote and maintained API documentation using Swagger, resulting in fewer integration errors.
- Contributed to a CRUD API using **Ruby on Rails**, gaining hands-on experience in Backend workflows.
- Performed database migrations, allowing the support of new API features and ensuring data preservation.

## Projects

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**Relational Database Management System (Graduation Project)** ↗

Rust

- Designed an SQL parser and developed logical and physical query planning systems capable of handling multiple inner joins, sorting, filtering, and grouping operations.
- Architected a storage engine featuring optimized buffer utilization, incorporating Hash and B+ Tree indexes, and supporting variable-length relation attributes.
- Implemented support for dynamic schemas encompassing various data types and relational constraints.

**Gym Management System** ↗

Java

- Implemented a user-friendly GUI using JavaFX for adding, modifying, and managing users' data.
- Adhered to Test-Driven Development (TDD) methodologies within our team to ensure the system's integrity and conduct ongoing regression testing while collectively implementing new features.
- Used several OOP design patterns, including Singleton and Factory patterns, resulting in a readable and extensible code base.

**Multithreaded Server-Client** ↗

Python

- Designed a multithreaded HTTP server, maintaining a persistent connection for each client.
- Implemented a heuristic timeout algorithm, preventing the server from being overloaded.
- Designed and implemented a simple client, allowing more robust testing of the server.

**Mathematical Expression Interpreter** ↗

C

- Built a stack-based infix-to-postfix converter, improving expression evaluation efficiency.
- Stored evaluated expressions in a BST, enabling faster variable lookup.

## Skills

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**Programming Languages:** C | Rust | Python | SQL | Java | JavaScript

**Web frameworks:** Ruby on Rails | Express

**Tools:** Git | OOP | Datastructures | Algorithms | Design Patterns

## Extracurricular Activities

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**Loyal Victorians**

- Best media member of the science and engineering fair committee.
- Head of Media in the Graduation Ceremony Organizing Committee.

## Certifications

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**Fundamentals of Back End Engineering by Hussein Nasser** ↗