

Abdallah Aloush

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Education

Alexandria University, BS in Computer and Communications Engineering 2018 – 2023
• GPA: 3.2/4.0

Experience

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

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

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

Web frameworks: Ruby on Rails | Express

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

Extracurricular Activities

Loyal Victorians

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

Certifications

Fundamentals of Back End Engineering by Hussein Nasser [↗](#)