

# Anas Ajaanan

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## Skills

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- **Programming Proficiency:** Exceptional skills in **C** and **C++**, with a strong emphasis on **Object-Oriented Programming**, **data structures**, and **algorithms**. Avid user and enthusiast of low-level programming languages, demonstrating a deep understanding of system-level development and optimization techniques.
- **Web Development Technologies:** Proficient in **HTML**, **CSS**, **JavaScript**, and **Bootstrap** for front-end development. Capable of creating responsive and user-friendly web interfaces. Experienced in **backend development** using **Python** with the **Flask** framework and **Node.js** with **Express.js**, adept at building scalable and efficient web applications. Additionally, skilled in web scraping using Python, extracting and processing data from web sources.
- **Database Management:** Well-versed in managing and integrating various database systems, including **MariaDB**, **MongoDB**, **PostgreSQL**, **SQLite**, and leveraging **Adminer** for database management tasks.
- **DevOps and Deployment:** Skilled in using **Docker** for containerization, facilitating consistent development, testing, and deployment environments. Experienced with **Nginx** for web server configuration and **Redis** for caching. Familiar with deploying and managing applications on cloud platforms like **Heroku**.
- **Others:** Git, Django, Socket Programming, Networking, Concurrency, Multithreading, OS Fundamentals

## Projects

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### WebServer - Nginx2.0

12/2023 - 03/2024

Developed an innovative, high-performance Nginx-inspired web server, focusing on event-driven architecture and HTTP/1.1 compliance. This project showcased:

- **Event-Driven Architecture:** Excelled in **advanced event-driven processing**, achieving unmatched **efficiency and scalability**.
- Achieved strict **HTTP/1.1 compliance** in Nginx 2.0, ensuring robust support for key methods (GET, HEAD, POST, DELETE) for broad compatibility and a reliable web-serving foundation.
- **Cross-platform I/O multiplexing** ensuring peak performance across environments.
- **Dynamic CGI Support:** Integrated cutting-edge **CGI** capabilities for dynamic content, significantly enhancing web interactivity and Engagement.
- **Configurable Logging System:** Implemented a sophisticated **logging framework**, enabling precise monitoring and optimization of server operations, ensuring peak performance.

### Inception

02/2024 - 04/2024

Orchestrated a cutting-edge Docker-based web infrastructure, setting a new benchmark in web service delivery. This project emphasized:

- **Container Orchestration:** Seamlessly dockerized and orchestrated essential services, utilizing **Alpine Linux** as a base image for a lightweight, yet potent infrastructure.
- **High-Efficiency Web Serving:** Deployed Nginx as a reverse proxy and integrated WordPress with **PHP-FPM** for fast, secure content delivery.
- **Database & Caching Solutions:** Utilized **MariaDB** and **Redis** to improve database reliability and site performance.
- **Integrated Versatile Services:** Added a managed **FTP Server** and Adminer for efficient content and database management.

### Mini shell

07/2023 - 09/2023

Developed Minishell, a **Unix shell** utilizing **Recursive Descent Parsing** for precise command interpretation and execution. Features include support for shell commands, piping and redirection, advanced error handling, and built-in commands. Leveraged RDP for lexical analysis, robust parsing, and execution, significantly enhancing functionality and user experience.

## Education

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### 42 Abu Dhabi

United Arabe Emirates, Abu Dhabi 02/2023 - Present

- Diploma in Software Engineering, Computer Science

## Certifications

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- **CS50: Harvard University Online:** An introduction to the intellectual enterprises of computer science and the art of programming. [link](#)
- **Problem Solving Certificate**, HackerRank - Demonstrated advanced problem-solving skills in challenging programming domains. [link](#)

## Achievements

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- Global Sustainability **Hackathon Winner**, **COP28 UAE:** Developed "Eco Trip," an **AI tool** for planning eco-friendly travel adventures, significantly minimizing carbon footprints and promoting sustainable tourism. [link](#)
- **Second Place in the 1 Billion Challenge** (Blanat Challenge): Achieved second place by expertly applying multiprocessing and multithreading techniques in C to optimize and efficiently process a dataset of 1 billion rows, showcasing superior problem-solving and code optimization skills. [link](#)