

# Muhammad Rafay

Undergraduate Comp Sci FAST NUCES

Enthusiastic and detail-driven Computer Science student with a solid foundation in programming and problem-solving. Eager to learn, adapt, and contribute to real-world projects while continuously improving my skills. Looking for an opportunity to grow in a dynamic environment.

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## EDUCATION

### Computer Science FAST NUCES Islamabad

08/2022 - Present

Courses

- DevOps
- Operating Systems
- Artificial Intelligence
- Data Structures
- Database
- Compiler Construction

### O/A Levels Army Public School

06/2017 - 06/2022

3A\* 5A

## WORK EXPERIENCE

### Freelance C++ Developer Fiverr/Upwork

06/2023 - Present

Achievements/Tasks

- Developed and optimized C++ applications for various clients, focusing on performance and efficiency.
- Worked on algorithms, data structures, and system-level programming. Debugged and maintained existing C++ codebases to improve functionality.

### Content Manager JST Limited Electronics

09/2024 - Present

jstmea.com

Achievements/Tasks

- Managed and curated website content to ensure clarity, accuracy, and engagement.
- Collaborated with developers and designers to enhance UI/UX through structured content.

## SKILLS

- C#
- Python
- C++
- Java
- Sql
- DevOps
- RESTful APIs
- Problem Solving
- Algorithms

## PERSONAL PROJECTS

### Scalable API-Driven Microservices Architecture (Node.js)

- Currently designing and deploying a fully scalable, API-driven microservices architecture where each service is built using a different stack and operates independently. Implementing RESTful APIs for seamless inter-service communication, ensuring fault tolerance and efficient scaling. The system will be containerized and deployed using industry-standard practices, showcasing ongoing expertise in API design and scalable systems.

### Generic Regex-Based Lexer

- Developed a JFlex-like generic lexer that takes user-defined regex-based rules to construct efficient lexical analyzers. Leveraging automata theory, the lexer dynamically builds state machines to tokenize input while handling errors robustly. This project showcases knowledge of compiler construction and automata theory in lexical analysis.

### Gym Management System (C# & SQL)

- Developed a comprehensive Gym Management System using C# and SQL, focusing on efficient database management. Utilized Crystal Reports for generating detailed financial and membership reports. Ensured data integrity and optimized database queries for fast retrieval and processing.

### Travel Management System (Java)

- Developed a Travel Management Application using Java, emphasizing software design principles and business logic. Designed and implemented core functionalities such as user bookings, trip scheduling, and payment processing. Applied software design patterns to enhance modularity and maintainability.

## TOOLS

Git - Linux - Docker - Postman - Kubernetes - GitHub Actions

## LANGUAGES

English  
Native or Bilingual Proficiency

Urdu  
Native or Bilingual Proficiency