

# MUHAMMAD ROSHAAN

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## OBJECTIVE

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Computer Science 3<sup>rd</sup> year student with hands-on experience in backend development and data analytics. Skilled in FastAPI, Python, SQL, MySQL/MongoDB, and Power BI. Seeking an internship or junior role to contribute to backend or data-driven projects while gaining industry experience.

## EDUCATION

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**Sir Syed University of Engineering and Technology**

BS in Computer Science | 2023 – Present (CGPA:3.81/4.00)

**Courses:** Python, SQL, Data Structures, Database Management, Data Analytics, DBMS, OS

Sep 2023–July 2027

*Karachi*

## TECHNICAL SKILLS

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**Languages & Tools:** Python, SQL, C++, C#, Excel, FastAPI, MongoDB

**Libraries & Frameworks:** Pandas, Matplotlib, NumPy

**BI & Visualization Tools:** Power BI, DAX, Jupyter Notebook

**Core Skills:** Data Cleaning, Wrangling, ETL, Dashboarding, Reporting

## PRACTICAL EXPERIENCE AND PROJECTS

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### *Online Movie Ticket Booking System – Python + MySQL*

Built GUI-based booking system integrated with SQL database and managed movie listings, users, and reservations using relational joins.

### *Book Manager API – Python (FastAPI) + SQLAlchemy + MySQL*

Built a complete RESTful API for book inventory management, implementing CRUD operations with FastAPI, SQLAlchemy ORM, and MySQL.

### *FlashSale Concurrency Engine – Python (FastAPI) + MySQL*

Designed a high-concurrency backend system to eliminate Race Conditions in inventory management. Implemented Pessimistic Locking via SQLAlchemy transactions to prevent overselling during simultaneous requests. Validated data integrity using a multi-threaded stress-test script simulating heavy traffic loads.

### *Netflix Data Analysis – Python (Pandas + Matplotlib)*

Explored Netflix dataset using Pandas and Matplotlib to uncover patterns in content release, genre popularity, and geographic distribution. Generated visual insights to highlight trends.

## LANGUAGES

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English: Fluent | Urdu: Native

## CERTIFICATIONS AND COURSES

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### ♣ **Introduction to MongoDB in Python** | DataCamp (Nov 2025)

A 3-hour course covering MongoDB fundamentals, NoSQL concepts, and core database operations in Python.

### ♣ **FastAPI (Python)** | Udemy | July - Oct 2025

Learned to build and deploy high-performance RESTful APIs with FastAPI, including database integration, data validation, and modular application design (21.5 hours).

### ♣ **SQL (MySQL)** | Programming with Mosh | March- May 2025

Learned structured query language concepts, covering joins, filtering, grouping, subqueries, and data manipulation.

### ♣ **Pandas for Data Analysis** | Codebasics | Oct – Dec 2024

Watched the complete playlist focused on real-world data analysis tasks using the Pandas library in Python.