

MUHAMMAD SOHAIB

Full Stack Developer | AI Enthusiast

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[GitHub](#) | [LinkedIn](#) | [LeetCode](#)

PROFESSIONAL SUMMARY

Motivated Computer Science undergraduate at COMSATS University Islamabad (GPA: 3.83/4.0) with hands-on experience building full-stack web applications, scalable database systems, and machine learning models. Proven ability to architect end-to-end solutions — from MERN-stack platforms with concurrent database access to custom Java database engines and neural network pipelines. Eager to apply technical skills and system-design knowledge in a challenging internship or collaborative development role.

EDUCATION

Bachelor of Science in Computer Science

Jan 2024 – Jan 2028 (Expected)

COMSATS University Islamabad

Islamabad, Pakistan

GPA: 3.83 / 4.0 · Relevant coursework: Data Structures, Database Systems, OOP, Operating Systems, Machine Learning

TECHNICAL SKILLS

- **Languages:** Java, Python, C++, JavaScript, PHP
- **Web Development:** React, Node.js, Express.js, HTML5, CSS3, Laravel
- **Databases:** SQL, MongoDB, Oracle, NoSQL, Concurrency Control, Database Design
- **Machine Learning:** Neural Networks, Data Preprocessing, TensorFlow, Feature Engineering
- **Tools & Platforms:** Git/GitHub, Excel Automation, WordPress, WooCommerce, MERN Stack

PROJECTS

Hospital Management System

2025

Tech Stack: MongoDB · Express.js · React · Node.js (MERN)

- Engineered a full-featured hospital platform with distinct Patient, Doctor, and Admin role modules, streamlining clinical workflow management.
- Implemented an appointment scheduling engine handling conflict detection and multi-user concurrent access via database transaction locking.
- Designed normalized MongoDB schema with referential integrity, reducing query response time and supporting real-time data updates.

Drone Security Surveillance System

2025

Tech Stack: Python

- Engineered a secure drone command and surveillance system using Python, implementing a Zero-Trust architecture for verified command execution.

- Integrated cryptographic techniques (digital signatures, encryption, and nonce-based validation) to prevent spoofing, replay attacks, and unauthorized control.

Era Demands — E-commerce Website

2024

Tech Stack: [WordPress](#) · [WooCommerce](#) · [PHP](#) · [CSS](#)

- Built and deployed a complete e-commerce platform using WordPress and WooCommerce with integrated payments and dynamic product management.
- Engineered responsive, brand-aligned UI through advanced CSS customization of themes.
- Operated a live e-commerce business, managing inventory, orders, and customer lifecycle.
- Designed and optimized high-performing campaigns using Meta Ads, focusing on conversion-driven growth.

Pakistan Cities Graph Analysis System

2025

Tech Stack: [C++](#) · [Data Structures & Algorithms](#)

- Developed a graph-based system modelling Pakistan cities with weighted edges, implementing Dijkstra, BFS, DFS, and Prim's MST for route and connectivity analysis.
- Designed custom data structures including a Min Heap (priority queue) and Hash Table with linear probing to optimize performance and enable fast lookups.
- Built a menu-driven CLI application with CSV data parsing and integrated multiple sorting algorithms (Merge, Insertion, Selection, Bubble) for efficient data processing.

Smart City Management System

2025

Tech Stack: [Java](#) · [OOP](#) · [Java Swing](#)

- Designed and implemented a Java OOP-based smart city simulation with modular management for utilities, infrastructure, and city services.
- Built a full graphical UI using Java Swing with interactive panels for real-time resource monitoring and administrative control.

Customer Churn Prediction Model

2026

Tech Stack: [Python](#) · [Neural Networks](#) · [IBM Telco Dataset](#)

- Built and trained a neural network classifier on the IBM Telco customer churn dataset, achieving high accuracy in churn identification.
- Executed a complete ML pipeline including data cleaning, encoding, normalization, class-imbalance handling, and model evaluation.
- Visualized feature importance and confusion matrices to provide actionable insights for business retention strategies.

File-Based Database Engine

2024

Tech Stack: [Java](#) · [File I/O](#) ·

- Engineered a custom database engine from scratch in Java, using the file system as persistent storage with no external database dependencies.
- Implemented a query parser supporting SQL-like syntax for SELECT, INSERT, UPDATE, and DELETE operations with indexing support.

ACHIEVEMENTS

3rd Position — CUI Tech Fest 2025

2025

[COMSATS University Islamabad](#) · [Competitive Technology Hackathon](#)

Secured 3rd position among teams from 10+ universities at COMSATS University Islamabad's annual technology festival, demonstrating strong problem-solving and technical execution under pressure.

CERTIFICATIONS

Python for Everybody Specialization
AI for Everyone
WordPress Development
Virtual Assistance
E-commerce Management

Coursera
Coursera · Andrew Ng
DigiSkills Pakistan
DigiSkills Pakistan
DigiSkills Pakistan

ADDITIONAL SKILLS & INTERESTS

- Database design and schema normalization for high-performance, concurrent systems.
- Understanding of concurrency control mechanisms including locking, MVCC, and transaction isolation levels.
- Excel automation using macros and formulas for data processing workflows.
- Active problem solver on LeetCode; consistently improving algorithmic and data structures knowledge.