

# AMMAR HASSAN

Lahore, Pakistan

+92-309-4028302

ammarhassan.amr@gmail.com

[Ammar Hassan](#)

[vroslemend](#)

## EDUCATION

### COMSATS University, Lahore

Bachelor of Science in Software Engineering

2021 - Present

Lahore, Pakistan

### International School Lahore, DHA Campus

A-Levels (Advanced Level)

2019 - 2021

Lahore, Pakistan

## COURSEWORK

- Data Structures & Algorithms
- Operating Systems
- Database Systems
- Object Oriented Programming

## EXPERIENCE

### Punjab Safe Cities Authority (PSCA) [↗](#)

Jun 2024 – Aug 2024

Web Development Intern

Lahore, Pakistan

- Supported the maintenance of **citizen-facing government portals**, gaining practical experience in optimizing **Node.js** architectures for high-traffic provincial services.
- Gained architectural insight into the system design of Punjab's **Automated E-Challan Network**, tracing the data pipeline from AI-based camera detection to web-dashboard visualization.

## PROJECTS

### CUI Central - Campus Ecosystem [↗](#) | Next.js, Socket.IO, Gemini AI, MongoDB

- Architected a multi-tenant campus ERP consolidating **7+ core services** (Digital Cafeteria, Job Portal, Room Booking) into a unified **Next.js 15** monorepo. Implemented complex **RBAC** (Role-Based Access Control) for secure Admin, Faculty, and Student workflows.
- Engineered a real-time infrastructure using **Socket.IO** for live faculty availability tracking and order status updates. Integrated a **RAG-based AI Agent** (Google Gemini) with MongoDB Vector Search to automate student support.
- [Live Demo](#)

### Sportzilla - Telemetry Analysis [↗](#) | Python, Pandas, NumPy, Matplotlib

- Built a Python pipeline to ingest and clean **50,000+ telemetry points**. Optimized data processing speed by **30%** by replacing iterative loops with **NumPy** vectorization. Generated statistical heatmaps to visualize driver consistency and degradation.
- [GitHub](#)

### Check! - Multiplayer Game [↗](#) | Next.js, Node.js, Socket.IO, Real-time

- Engineered a custom WebSocket game engine supporting concurrent rooms. Achieved **<50ms latency** for game state synchronization using event-driven **Socket.IO**. Solved complex race conditions to ensure game integrity across multiple clients.
- [Live Demo](#) | [GitHub](#)

### Imaginify - AI Image SaaS [↗](#) | Next.js, TypeScript, Cloudinary AI, Stripe

- Developed an AI image processing platform transforming high-res images. Integrated **Stripe Webhooks** to securely handle credit consumption and payment lifecycles. Implemented Type-Safe API routes for generative fill features.
- [Live Demo](#) | [GitHub](#)

### Lead Tracker - Chrome Extension [↗](#) | JavaScript, Chrome API, DOM Manipulation

- Built a productivity tool to streamline sales workflows. Leveraged the **Chrome Extensions API** to interact with browser tabs and implemented LocalStorage to persist lead data across sessions, reducing manual data entry.
- [GitHub](#)

## TECHNICAL SKILLS

**Languages:** JavaScript, TypeScript, Python, C++, SQL, HTML, CSS

**Frameworks:** Next.js, React, Node.js, Express, Socket.IO, Tailwind CSS

**Data & AI:** Pandas, NumPy, Matplotlib, Seaborn, MongoDB Vector Search, Google Gemini API

**Databases & Tools:** MongoDB, Microsoft SQL Server, Git, Docker, Linux, Firebase, Vercel