

Muhammad Bilal

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PROFILE STATEMENT

Computer Science student with hands-on experience in Web Development, Mobile Application Development, Artificial Intelligence, and Machine Learning. Experienced in building AI-powered applications, computer vision systems, real-time communication platforms, and scalable software solutions. Proficient in C++, Python, Java, JavaScript, Kotlin, Node.js, SQL, NoSQL, Firebase, and OpenCV. Skilled in backend development, database design, API integration, and developing user-focused applications. Interested in applying modern technologies to solve real-world problems and contribute to professional software development projects.

TECHNICAL SKILLS

- **Programming Languages:** Python, JavaScript (ES6+), C++, C#, Java, Kotlin
- **AI / ML Frameworks:** Scikit-learn, TensorFlow, Keras, PyTorch
- **Generative AI :** Prompt Engineering, n8n Workflow Automation
- **Mobile Development:** Android App Development with Kotlin & Java
- **Frontend:** Streamlit, Responsive UI Design, Bootstrap, TailwindCSS
- **Databases & Vector Stores:** MongoDB, MySQL, SQLite, Oracle
- **Tools & Platforms:** Git, GitHub, Docker, Vercel, VS Code, Jupyter Notebook, Kaggle, Canva, Figma, Anaconda, Power BI, Cisco
- **Libraries & Frameworks:** OpenCV, MediaPipe, NumPy, Pandas, Matplotlib, OpenGL, .NET
- **Other Technologies:** Firebase, WordPress, LaTeX
- **Soft Skills:** Problem Solving, Technical Communication

PROJECTS

- Exam Seating Management System** | *React, Electron, Tailwind CSS, Zustand, Node.js, bcryptjs* 2026
- Developed a **desktop exam management application** using an anti-cheat seating algorithm preventing same-class students from sitting adjacent or diagonally.
 - Built automated **attendance sheet and roll slip generation modules** with PDF export, room-wise seating, and student details.
 - Implemented **secure admin authentication** using bcryptjs and Electron IPC with first-time setup flow.
 - Added **Excel/CSV bulk import** and interactive seating inspection with conflict detection.
 - **Deployed at KICSIT** and actively used for managing examination seating across multiple halls.
- Jarvis — AI Voice Assistant** | *Python, Google Gemini, LiveKit Agents, PyAutoGUI, Tesseract OCR* 2025
- Developed an **AI voice assistant** supporting English and Urdu commands with real-time conversational responses.
 - Integrated **Google Gemini LLM and LiveKit Agents** for low-latency AI interactions.
 - Implemented system automation, application control, file management, and keyboard/mouse operations.
 - Built AI vision capabilities using **Tesseract OCR** and integrated APIs for weather, news, and search.
- AI-Based Real-Time Attendance System** | *Python, OpenCV, Face Recognition, NumPy* 2025
- Developed a **real-time face recognition attendance system** using OpenCV and facial embeddings.
 - Implemented multi-user recognition, duplicate attendance prevention, and confidence-based unknown face filtering.
 - Designed a live GUI interface displaying camera feed, user information, and attendance status.
 - Optimized performance for real-time processing on standard CPU hardware.
- WhatsApp Clone — Android Messaging Application** | *Kotlin, Jetpack Compose, Firebase, MVVM, Hilt* 2026
- Developed a **WhatsApp-style Android messaging application** using Kotlin and Jetpack Compose with Firebase backend.
 - Implemented OTP authentication, real-time messaging, typing indicators, chat history, and message management.
 - Designed scalable architecture using **MVVM, StateFlow, and Hilt dependency injection**.
 - Integrated AI chat assistant using Groq API and built modules for calls, status, communities, and settings.
- TCP Chat Room — Secure Real-Time Messaging System** | *C#, .NET Framework, TCP Sockets, SQLite, AES* 2026
- Developed a **client-server real-time chat application** using C# TCP sockets and multi-user communication.
 - Implemented AES encryption, SHA-256 password hashing, and SQLite-based authentication system.
 - Built messaging features including chat history, file transfer, typing indicators, and timestamps.
 - Created a server dashboard with client management, broadcasting, logging, and auto-reconnect support.

EDUCATION

Institute of Space Technology (KICSIT Campus)

Kahuta, Pakistan

Bachelor of Science in Computer Science (BSCS)

2023 – 2027

- Currently in 6th semester with a **CGPA of 3.02**. Coursework includes Algorithms, Data Structures, Databases, Software Engineering, and Computer Networks.
- Developed expertise in **AI/ML, Web Development, and Mobile Application Development** through **15+ self-directed projects**.

Punjab Group of Colleges

Kahuta, Pakistan

FSC — Intermediate (Pre-Engineering)

2021 – 2023

- Studied Mathematics, Physics, and Chemistry with focus on analytical and problem-solving skills.

Karachi Public School & College Kahuta

Kahuta, Pakistan

Matriculation (Computer Science)

2018 – 2021

- Completed secondary education with a focus on Computer Science fundamentals.

ONLINE COURSES AND CERTIFICATION

- *Indus AI Week – NYLP* – [Link](#)
- *Associate AI Engineer for Developers - DataCamp* – [Link](#)
- *Introduction to Cybersecurity - CISCO* – [Link](#)
- *Photography– Mind Luster* – [Link](#)