Muhammad Zohaib Raza

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Objective

A Computer Science graduate from FAST-NU, Islamabad, with hands-on experience building full-stack applications, AI-integrated systems, and scalable backend services. Seeking an opportunity to apply my skills in modern frameworks, system design, and collaborative engineering to deliver impactful, production-ready software while continuing to grow as a developer.

Education

- **FAST National University of Computer and Emerging Sciences** *August 2022 - June 2026*
  Bachelor's in Computer Science in Islamabad

Skills

- **Programming Languages:** Python, C/C++, C#, HTML, CSS, Java, JavaScript, Assembly
- **Web & Backend:** React.js, Node.js, Express.js, FastAPI, REST APIs
- **Database Systems:** MySQL, SQL Server, MongoDB, PostgreSQL
- **DevOps & Version Control:** Git, Docker, Kubernetes, CI/CD Pipelines, ArgoCD, AWS, Terraform, Jira

Experience

- **Full Stack Developer Intern - Software Productivity Strategist, Inc.** *July 2025 – Sep 2025*
  Islamabad, Pakistan
  - Developed AI-integrated full-stack web applications, integrating machine learning APIs and intelligent automation features.
  - Collaborating with cross-functional teams on feature implementation, code reviews, and system performance optimization.
- **Full Stack Developer - Freelance** *Sep 2024 – Dec 2025*
  Islamabad, Pakistan
  - Designed and developed custom web applications for clients, including e-learning platforms, e-commerce sites, and dashboards using React.js, Node.js, Next.js, and FastAPI.
  - Delivered end-to-end solutions include responsive UI, interactive components, backend integration, and workflow automation to optimize client operations.
- **Teaching Assistant, FAST-NU** *Aug 2023 – Dec 2024*
  Islamabad, Pakistan
  - Supported COAL course by designing and grading assignments, quizzes and conducting exam review sessions.
  - Assisted in DLD and IICT by conducting lab sessions, debugging, and evaluating lab tasks with constructive feedback.

Projects

- **AlertEye – Federated Learning Based Hybrid Smart Home Intrusion Detection**
  Tech Stack: Flutter, Python, TensorFlow, Node.js/Express, MongoDB, YOLO, MediaPipe, Gemini API
  - Developed an AI-powered hybrid smart home security system using outdoor cameras and indoor mmWave radar tracking with federated learning for privacy-preserving real-time intrusion detection.
  - Implemented advanced computer vision features including known/unknown person identification, wall-climbing detection, and real-time weapon detection with instant mobile alerts.
- **SpeakSQL – Natural Language to SQL Assistant**
  Tech Stack: FastAPI, React (Vite), PyTorch, Transformers, PEFT/LoRA, PostgreSQL, MongoDB
  - Built a full-stack NL2SQL app with a FastAPI backend and React UI for chat-based querying.
  - Integrated a LoRA-fine-tuned Qwen2.5-Coder model to generate schema-aware SQL.
  - Added schema introspection, dangerous query detection, and confirmation before execution.
- **SecureChat – E2EE Full-Stack PKI Messaging Platform**
  MERN, Socket.io, Web Crypto API
  - Developed a real-time messaging app with End-to-End Encryption (E2EE) and manual protocol security.
  - Integrated Web Crypto API for AES-GCM and RSA-PSS to ensure message confidentiality and integrity.
  - Implemented X.509 certificate validation and Diffie-Hellman key exchange for secure session management.
- **Microservices-Based Event Booking Platform**
  Tech Stack: FastAPI, Flask, RabbitMQ, PostgreSQL, MongoDB, Docker, Kubernetes
  - Built a microservices-based event booking platform using FastAPI/Flask with REST APIs and RabbitMQ for async communication.
  - Containerized services with Docker and deployed on Kubernetes using Ingress routing with PostgreSQL and MongoDB databases.