

Salman Mehmood

Software Developer

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WORK EXPERIENCE

Beaj Education

Oct 2024 – Present

Software Engineer

Remote

- Architected a **production-grade WhatsApp-native EdTech platform** using **Meta WhatsApp Business API (webhooks)**, orchestrating concurrent bots (Teacher, Student, Conversational AI) with event-driven message processing at scale.
- Designed distributed message queuing (**BullMQ + Redis**) with retry policies, exponential backoff, and sequential delivery guarantees ensuring **zero message loss** and high reliability for concurrent learners.
- Built a Administrative Portal (**React, TypeScript, Node JS, Express, PostgreSQL**) featuring **RBAC (JWT)**, full audit logging, real-time WhatsApp conversation viewer, Content Ingestion System, and engagement analytics.
- Integrated **AI/LLM & Speech-to-Text services** (OpenAI GPT-4o, Gemini, Azure Speech, ElevenLabs) with dynamic provider routing, auto language detection, and prompt-engineered bots for contextual learner feedback.
- Built **server-side media processing pipelines** using **FFmpeg, Handbrake integration** and **Sharp** for transcoding and optimization; integrated **Azure Blob Storage** as CDN.
- Designed **layered backend architecture** with **Azure Redis Cache** (cluster mode), **Sentry** and **Pino** structured error monitoring.
- Implemented **OAuth2 Canva API integration** with secure token refresh flows, enabling dynamic design asset creation and reuse directly within the admin portal. Deployed containerized services using **Docker, Azure Container Apps**, and automated **CI/CD pipelines** via **GitHub Actions**, ensuring scalable, high-availability cloud-native deployment.
- **Technical Skills:** NodeJS, ReactJS, Express, PostgreSQL, Sequelize ORM, BullMQ, JWT, TypeScript, Vite, Tailwind CSS, OpenAI API, Google Gemini, Microsoft Azure Speech SDK, ElevenLabs, Meta WhatsApp API, Canva API, Google Sheets API, Google Drive API, Azure (Redis Cache, Blob Storage), Sentry, FFmpeg, Sharp, GitHub, Docker, Linear
- **Soft Skills:** Teamwork, Time Management, Communication, ProblemSolving, Client Interaction

Professional Freelancer

Jul 2020 – Present

Software Developer

Remote

- Collaborate with clients to develop projects across **Web, and App development** using **Object-Oriented Programming (OOP) principles, Data Structures, and Algorithms**, achieving consistent 5-star ratings and Level 2 Seller status on Fiverr.
- Engineered applications to optimize **performance, maintainability, and system scalability**.
- **Technical Skills:** C, C++, Java, Python, React Js, Node Js, WPF, C#, Code Reviewing, Debugging

Bank Al-Habib Limited

Oct 2023 – Dec 2023

IT Trainee Officer

Karachi, Pakistan

- Gained exposure on **Core Banking Systems**, financial transaction workflows, and **SBP-compliant** regulatory architectures across mission-critical financial infrastructure. Supported **production environments** through secure deployment practices.
- Rotated across **Software Engineering, QA, DevOps, Cybersecurity, ERP, Middleware, and Digital Banking** teams gaining hands-on exposure to **SDLC, microservices, API integrations, and enterprise system design**.

Pumpjack DataWorks

Jun 2022 – Sep 2022

Full-Stack Developer Internship

Karachi, Pakistan

- Collaborated with a five person team to develop a Crowd Source App using **React Native, AWS RDS, and Node JS**, providing access to millions of people to support business and get access to projects early.
- Developed a Website and Application with front-end on **React Native, React JS** and back-end on **Node JS** for a communication channel between Vendors and clients; implemented **Kafka** with round-robin client distribution.
- **Technical Skills:** React Native, React JS, Node JS, Express js, Apache Kafka, AWS RDS, PostgreSQL, Git, GitHub
- **Soft Skills:** Teamwork, Time Management, Communication, Presentation Skills

PROJECTS

Indoor Environment Profiler

Spring 2022

Final Year Project

Web App

- Built a real-time indoor **surveillance system** integrating live webcams with automated detection of violence, fire, smoke, and weapons using **TensorFlow/Keras** deep learning models trained via **Jupyter Notebooks**.
- Developed a secure **ASP.NET Core (C#) RESTful API** with **RBAC, Firebase Authentication** (admin segregation, protected routing), and **Firebase Realtime Database** for low-latency cloud persistence.

- Designed an interactive **React JS** dashboard with **Material-UI**, **Recharts**, and **ApexCharts** for real-time monitoring, historical event tracking, and multi-entity **CRUD** across users, activities, and roles.

AI Resume Ranking & Semantic Matching System

Fall 2023

Artificial Intelligence, Information Retrieval

Web App

- Built AI-powered resume screening system that ranks top-K candidates based on HR queries using **cosine similarity over high-dimensional embeddings**.
- Implemented **OCR pipelines (OpenCV + Tesseract)** to extract text from image-based resumes, followed by **NLP preprocessing** including **tokenization**, **lemmatization**, **stop-word** removal, and text normalization.
- Generated **semantic embeddings** using **OpenAI Ada-002 and GPT-3.5 models**, stored vectors in a **Vector Database**, and performed similarity search by embedding HR queries for real-time semantic matching.
- Interactive **Streamlit** dashboard for HR; containerized **Python microservices** using **Docker** for scalable deployment.

Inventory Management System

Aug 2024 – Present

Stock Tracking Website

Web App

- Developed a **multi-tenant** stock tracking system using **ASP.NET (.NET 8)**, **C#**, and Clean **layered Architecture**, **Dependency Injection**, **JWT tokens**, **RBAC**, and global exception **middleware** across inventory, orders, HR, and accounting modules.
- Engineered the **data layer** with **EF Core (Code-First)** and **Microsoft SQL Server**, designing **normalized relational schemas**, **tenant-scoped query** isolation, **stored procedures** for performance-critical workflows, **transactional migration scripts**, and **database-level access control**.
- Built a **scalable React + TypeScript** application with **Context API** state management, reusable component architecture, **server-side pagination**, **debounced search**, **secure token-based API** integration, and modular **feature-driven UI design**.
- Implemented environment-based configuration, API testing with **Postman**, structured logging, **DTO mapping (AutoMapper)**, and production-ready deployment workflows ensuring **scalability, maintainability, and security**.

SKILLS

Languages : Python,C/C++,C#,Java,HTML/CSS/JS

Databases/Tools : SQL Server,PostgresSQL,MongoDB,MySQL,Firebase,Milvus,Bash,Git,Docker,Jira,Linear,Trello,ClickUp,GitHub

Technologies/Frameworks : ReactJS,ASP.NET,Flask,.NET,Figma,Nodejs,React Native,WPF,Typescript,Nextjs

EDUCATION

National University of Computer and Emerging Sciences - FAST

2019 - 2023

Bachelors in Computer Science

Karachi

- * **Awards**: Deans List of Honors (Spring 2023)
- * Object-Oriented Programming Teaching Assistant (Fall 2022)
- * Programming Fundamentals Student Lab Assistant (Fall 2021)
- * The Webmasters FAST-NUCES (Co-Head of Media and Promotions)

Shah Abdul-Latif Govt. College

2017 - 2019

Pre-Engineering

Mirpur Khas

- * **Grade**: A+