

SABIH KHAN

FULL-STACK WEB DEVELOPER & SYSTEMS ENGINEER

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TECHNICAL SKILLS

Languages: JavaScript (ES6+), TypeScript, Node.js, C, Assembly (x86), SQL, HTML5, CSS3
Frontend: React.js, Vite, Tailwind CSS, Framer Motion, Zustand
Backend & DB: Express.js, REST APIs, GraphQL, WebSockets (Socket.io), MongoDB, PostgreSQL, Redis
DevOps & Cloud: AWS (EC2), Docker, Docker Compose, Nginx Reverse Proxy, VPS Deployment, Linux, CI/CD, Arcjet

KEY ENGINEERING PROJECTS

TwoMINSite (www.twominsite.store) | Multi-Tenant E-Commerce Site Builder SaaS React, Node.js, VPS, Nginx

- Architected an instant, full-stack **e-commerce store builder** allowing users to generate standalone commercial websites containing unique inventories, independent dynamic catalogs, and multi-product checkout flows.
- Engineered a centralized merchant dashboard facilitating multi-site ownership, enabling real-time product variations management, stock configurations, and localized store analytical reporting per tenant.
- Deployed the platform to an unmanaged **Linux VPS environment**, configuring an **Nginx reverse proxy** pipeline with optimized caching rules to maintain sub-second server response rates.

Life Rummer | Multi-Tenant School Management Platform MERN Stack, JWT, RBAC Architecture

- Designed a multi-tenant school administration ecosystem enforcing strict logical database isolation per school instance to secure student, teacher, and grade data dimensions.
- Implemented localized **JWT authentication stored securely within HttpOnly cookies** to fully mitigate client-side Cross-Site Scripting (XSS) and token extraction vulnerabilities.
- Constructed dynamic analytical dashboards displaying structural operations telemetry, cutting data access latency for institution admins by **40%**.

Chill Chat | Low-Latency WebRTC & Signaling Engine WebRTC, Socket.io, Arcjet, Zustand

- Developed a peer-to-peer real-time communication portal utilizing **WebRTC video infrastructure** supporting automated SDP handshake negotiations and dynamic ICE candidate mapping.
- Optimized multi-user presence status maps and chat event broadcasts through a scalable **Socket.io WebSocket matrix**.
- Hardened API defense parameters by integrating **Arcjet edge filters** for automatic bot mitigation, application-level rate limiting, and defensive request token scanning.

Sabix OS | Custom x86-64 Custom Kernel Project C, x86 Assembly, Systems Programming

- Developing a custom **64-bit standalone kernel** to investigate lower-level processor interactions, native firmware systems, and direct bare-metal hardware control structures.
- Programmed a multi-stage bootloader infrastructure in **x86 Assembly**, managing the initialization handshake from real-mode into protected execution kernels and organizing custom Global Descriptor Tables (GDT).

GS Code | Virtualized Cloud IDE Playground Docker, AWS EC2, PTY.js, CI/CD

- Built an isolated browser terminal code editor leveraging **PTY.js** to route streaming standard I/O pipes directly from terminal contexts to web sockets.
- Containerized computation engines utilizing **Docker** environments, orchestrating immediate code compilation tasks smoothly inside reproducible server blocks deployed on **AWS EC2 instances** through an automated **CI/CD pipeline**.

Scale Up Box | Integrated Multi-Service SaaS Platform OpenAI SDK, Cloudinary Optimization

- Assembled a unified SaaS suite featuring modular applications including a digital invoice system and live resume engine powered by the **OpenAI API** to dynamically structure copy text inputs.

EDUCATION

Higher Secondary School Certificate (HSSC - ics) Graduating June 2026

Completed First Year; currently finishing Second Year exams. Advanced technical curriculum tracking Analytical Calculus, Mechanics, and Electromagnetic Physics.

Secondary School Certificate (Matriculation - Computer Science) Completed

Graduated with **1074 / 1200** total marks. Formally trained in core algorithmic problem solving, logic gates, and early computing principles.