

SAAD BIN ARSHAD

FULL-STACK SOFTWARE ENGINEER · ENTERPRISE WORKFLOW SYSTEMS

🕒 Remote worldwide, UTC+5 (full EU overlap, US-East to 1pm ET)

📍 Lahore, Pakistan

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PROFILE

Full-stack engineer with **5+ years** building and owning production systems end to end: enterprise CMMS and asset management, building energy and equipment management, e-commerce with real-time and rewards engines, healthcare workflow, and analytics-heavy admin portals. Recent work integrates LLM features with human-in-the-loop review. Comfortable as the sole engineer on a product, from architecture to production support.

TECHNICAL SKILLS

Languages	TypeScript, JavaScript, Python, C++, SQL, HTML, CSS
Frontend	React.js, Next.js (App Router, SSR / SSG / CSR), Vue 3, Quasar 2, Capacitor (iOS / Android), TanStack Query, Pinia, Zod, Tailwind CSS, shadcn/ui, Ant Design, Material UI
Backend	Node.js, Express.js, FastAPI, Pydantic, Django, REST API design, serverless (AWS Lambda), real-time (Socket.io, Pusher, WebRTC, MediaSoup)
Databases	MongoDB (aggregation pipelines, schema design), PostgreSQL, MySQL, Redis, SQLite
AI Engineering	LLM API integration (OpenAI, Anthropic), structured output (JSON Schema, Zod), human-in-the-loop workflows, prompt engineering, agentic coding (Claude Code)
Automation	Workflow automation, event-driven pipelines, webhook handling, queue and worker patterns, idempotency and optimistic updates, multi-stage approval flows, familiar with RAG, automation, scraping tools
Cloud & DevOps	AWS (Lambda, S3, SNS), Docker, CI/CD pipelines, GitHub Actions, Vercel, Railway, Backblaze, Linux, Bash scripting, Git
Testing & QA	Vitest, Jest, Playwright (component and E2E), Cypress, MSW, unit and integration testing, PR review
Enterprise Domain	SharePoint Framework (SPFx), custom SharePoint extensions, HCM workflow portals CMMS and enterprise asset management (EAM): work orders, preventive maintenance, BOM, inventory, procurement; building management systems (BMS): HVAC, metering, rules engines, time-series; healthcare workflow; e-commerce and payments
Embedded Practices	Arduino, ESP32, Raspberry Pi, sensor integration, PWM, real-time C++ control loops Agile / Scrum, RBAC design, staged releases, architecture documentation, async remote teams

PROFESSIONAL EXPERIENCE

Independent Software Engineering, Contract & Client Projects

Feb 2021 – Present

Software Engineer (contract, concurrent with the roles below)

Remote

Building Energy & Equipment Management Platform (multi-tenant SaaS, web and native mobile, NDA)

- Built the point-mapping module used to commission buildings: drag-and-drop binding of thousands of BMS sensor points to equipment slots, virtualised lists, keyword search and staged bulk save.
- Integrated LLM-generated mapping suggestions with human-in-the-loop review: ranked candidates with confidence and reason, accept-one or approve-all, provenance recorded on each binding.
- Built the rules-engine Actions page and the multi-step dashboard builder (layout, panel configuration, publish), plus management screens for equipment templates, slots and instances.

- Authored the frontend architecture reference and AI-agent steering config for a domain-driven, four-layer Vue 3 codebase (**18 domains, about 880 files**) with Zod-validated API boundaries.

ITW Hobarts | Computerised Maintenance Management System (CMMS) & Asset Management

- Sole engineer on a production CMMS processing **1,000+ orders per month**: work orders, preventive maintenance, procurement, inventory and multi-stage order management.
- Cut heavy query times to **roughly 700–1,300 ms** by restructuring the MongoDB aggregation pipelines that resolve parts, vendors and pre-orders in a single pass.
- Designed role-based access control with configurable permissions across procurement, inventory and orders.

Urbanfits | E-Commerce Platform & Admin Suite *(contract with Urban Soft Development, UAE)*

- Architected and shipped an e-commerce platform solo on **serverless AWS Lambda**: Stripe payments, webhook order tracking, shipment integration, two languages, Pusher real-time features, on-page SEO.
- Reduced server requests **18–25%** with locally synced global state, and cut hosting cost with a CSR-first strategy that mixes SSG and SSR.
- Built a rewards engine: check-ins, streaks, tasks, weighted lucky draw, virtual loyalty card, transaction history.
- Delivered the admin suite: geo-analytics of orders by region, revenue reporting, user-activity metrics, category management, product bundles, a coupon engine and automated error reporting.

Sapient Complies

Dec 2023 – Apr 2026

Full-Stack Web Developer

Remote

- **Fitek (healthcare)**: rebuilt a clinical management and workflow application serving **10,000+ active patients**: role-based access, orders, demographics, verification workflows, medical templates.
- **Opposing Cylinders**: rebuilt the platform in Next.js for an antique automobile and parts marketplace with membership plans and community tours.
- Delivered a hiring and onboarding portal for **LineCraft LLC**, and a booking platform plus CMS for **NexGen Vending** handling **hundreds of bookings per week**.

Forward Solutions

Mar 2022 – Nov 2023

Software Engineer

Remote

- **JX Metals**: built and maintained SharePoint Framework (SPFx) web parts for an internal enterprise portal.
- **Dayforce**: built enterprise business portals for HCM (Human Capital Management) workflow systems.
- Standardised MERN, Vue.js and SPFx applications on TypeScript, **reducing defects by roughly 40%**.
- Wrote unit and end-to-end test suites, led pull-request reviews and authored CI/CD pipelines for multi-stage deployments.

OPEN SOURCE & DEVELOPER TOOLING

- **Kimetra** | npmjs.com/package/kimetra: cross-platform Node.js keyboard-simulation library on OS-level APIs, macro system, microsecond precision. One `npm i`, no native compilation.
- **Gin** | Git snapshot CLI and portal: captures Git-tracked changes and moves them between machines by ID without touching branch history. Custom CLI, serverless Vercel backend, management portal.
- **nebula-spfx** | SPFx scaffolder: **80% faster project setup** and **50–95% faster local serve**, with pre-built controls, utilities and build scripts.
- **Roughly 1,100 commits** across personal and client repositories in the last 12 months, covering feature delivery, PR reviews and release engineering.

EDUCATION & CERTIFICATION

- **Diploma in Full Stack Web Development**, PNY Institute
- **FSc, General Science**, Government College University, Lahore