

SYED USAMA HAIDER KAZMI

System Architect | Director of Engineering | Multi-Tenant SaaS & Healthcare Platforms | Cloud & Data Architecture

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PROFESSIONAL SUMMARY

Engineering leader and System Architect with 10+ years designing, building, and scaling multi-tenant SaaS and healthcare technology platforms, currently serving as Director of Engineering in the clinical trials domain. Own architecture and technical roadmap for 11 concurrent enterprise client engagements (7 managed hands-on), having taken 14 clinical studies to production while scaling platforms to 1,300 peak active users and 1.5M+ patient records per study, with a clean compliance record across HIPAA, GDPR, 21 CFR Part 11, and GCP audits. Architect of a 34-module enterprise eClinical platform and a vendor-agnostic OAuth2/Big Query integration layer connecting seven IoT and telehealth device platforms. Combines deep hands-on architectural expertise, API-first design, modular/event-driven systems, cloud data pipelines, with engineering leadership across distributed, cross-functional teams.

CORE COMPETENCIES

System & Solution Architecture: Multi-Tenant SaaS Architecture, API-First & Microservices Design, OAuth2 Authorization Architecture, Modular & Event-Driven Systems, Data Pipeline & Warehouse Design (BigQuery), Cloud Infrastructure (GCP)

Engineering Leadership: Technical Strategy & Roadmapping, Distributed/Cross-Functional Team Leadership, Hiring & Mentorship, Engineering Standards & SOPs, Code Quality & Review Governance, Stakeholder Management

Compliance & Regulatory Architecture: FDA 21 CFR Part 11, HIPAA, GDPR, SOC 2, ICH-GCP, GxP, RBAC & PHI-Level Access Control, Audit Trail Design

Technical Stack: PHP (Laravel), React.js, Vue.js, React Native, MySQL, Redis, Google Cloud Platform, BigQuery, REST APIs, Git, CI/CD

Domain Expertise: Clinical Trial Management (CTMS), eClinical Systems, ePRO/eCOA, eConsent, eCRF, eTMF, Decentralized Clinical Trials (DCT), IoT/Wearable Integration, Telemedicine

PROFESSIONAL EXPERIENCE

Director of Engineering — Delve Health Dec 2022 – May 2026

- Architect and technical owner for a healthcare SaaS platform (ePRO, eCOA, eConsent, eCRF, patient engagement) serving 11 concurrent enterprise clients (7 managed hands-on) across 14 deployed clinical studies over 2–4 year engagement lifecycles.
- Own platform roadmap and technical backlog prioritization in direct partnership with sponsors, translating clinical and regulatory requirements into architecture decisions ahead of each study's build cycle.
- Designed systems handling sensitive clinical and patient data at scale — up to 1,300 active users and 1.5M+ patient records per study — architecting daily, hourly, and monthly backup and retention policies to protect data integrity.
- Held full compliance and audit ownership across HIPAA, GDPR, SOC 2, 21 CFR Part 11, and Good Clinical Practice (GCP) standards, including root-cause analysis and resolution of 2 quality incidents through formal Corrective and Preventive Action (CAPA) processes, maintaining a clean audit record across all 11 client engagements.
- Directed a globally distributed engineering team spanning CST, Egypt, Bangladesh, Pakistan, Saudi Arabia, and Canada time zones — including developers, data scientists, and manual/automation QA — while coordinating with clients across Central, Pacific, and Middle Eastern time zones.
- Designed and implemented AI-powered Retrieval-Augmented Generation (RAG) systems enabling cross-functional intelligence and knowledge retrieval across engineering and operations teams.
- Built engineering standards, SOPs, CI/CD pipelines, and code review practices that sustained architectural quality and delivery predictability across the organization.

- Key Impact: Scaled the platform to 1,300 peak active users and 1.5M+ patient records per study with zero critical compliance findings across HIPAA/GDPR/21 CFR Part 11/GCP audits; grew and retained 11 client relationships (7 direct).

System Architect — Delve Health Feb 2021 – Dec 2022

- Owned the product development lifecycle from requirement analysis through deployment, ahead of stepping into the Director of Engineering role.
- Served as the primary technical bridge between stakeholders, engineering teams, and clients on architecture and solution design.
- Designed foundational systems that later scaled to support the platform's multi-client, multi-study growth.

Project Manager / Full Stack Developer — CFE Group of Colleges Jun 2018 – Feb 2021

- Architected and delivered three concurrent institutional products for a college group serving roughly 5,000 active students per year: a university HRMS, digitized financial/operations systems, and an e-learning platform — leading an in-house team of 5+ (senior developers, interns, a QA engineer, and a wireframe/UX designer) based in Pakistan.
- Designed an RBAC-governed HRMS architecture (attendance, profiling, documents, shift scheduling) supporting 300+ employees.
- Engineered digitized accounts and operations workflows — installments, carry-forwards, adjustments, fines, and expense management — covering the institution's full student and financial lifecycle.
- Built a Zoom/Meet-integrated e-learning platform that went live 3–4 months before the COVID-19 outbreak, giving the institution first-mover advantage in digital learning.

Team Lead (Part-Time) — Solstice Solutions Jun 2018 – Jan 2020

- Supervised code quality and architecture standards for a development team, in parallel with the CFE role.

Full Stack Developer — Geekinn Pvt Ltd Apr 2017 – Jun 2018

- Built SaaS-based applications and mobile solutions; progressed into a team-leadership track guiding junior developers.

Android Developer — IT-Genes Oct 2015 – Feb 2017

- Built and shipped native Android applications using Java.

KEY ARCHITECTURE PROJECTS

Clinical StudyPal — Enterprise CTMS / eClinical Platform | System Architect & Director of Engineering

- Architected a multi-tenant, web- and mobile-enabled eClinical platform covering 34 functional modules across the full clinical trial lifecycle: eConsent, ePRO/eCOA, eCRF, eTMF, randomization, drug supply, IoT device sync, and telemedicine.
- Designed a compliance-first architecture aligned to FDA 21 CFR Part 11, HIPAA, GxP, and ICH-GCP, including role-based access control with PHI-field-level permissions and an immutable audit trail.
- Built on Laravel/PHP, MySQL, and Redis, deployed on Google Cloud Platform (Compute Engine, Cloud Storage, BigQuery, Secret Manager, Cloud Build), with the schema managed through 436 versioned database migrations.
- Directed integration of multiple IoT/wearable health device platforms via OAuth2 and REST APIs, plus in-app telemedicine via Video SDK, scaling the platform to 14 deployed studies for 11 clients and up to 1,300 active users per study.

Unified Wearable & Telehealth Integration Architecture | System Architect (Personal Design)

- Designed a generic, vendor-agnostic OAuth2 authorization engine and BigQuery-backed data pipeline connecting seven wearable/telehealth platforms (Apple Watch, Fitbit, Oura, Withings, Dexcom, TempTrack, Strados) without bespoke per-vendor integration code.
- Replaced repetitive, per-integration engineering effort with a single configurable authorization and data-processing layer, reducing onboarding time and code duplication for new device vendors.

Delve AI — AI-Powered Enterprise Knowledge Assistant | System Architect / Director of Engineering

- Architected and led development of a RAG-based enterprise knowledge assistant using React, Laravel, and Google Gemini AI, enabling contextual search across SOPs, policies, and organizational documents.
- Designed scalable role-based collaboration, secure invitation workflows, and AI usage tracking systems.

DataFinder (Open Source) — datafinder.suhk.me | Creator & System Architect

- Architected an enterprise-grade Laravel data management engine (Eloquent/Query Builder backend, modular JavaScript frontend) supporting configurable multi-table joins, aggregates, and a chunked export pipeline handling 100k+ rows with minimal memory overhead.

EDUCATION

Bachelor of Science in Computer Science — Virtual University of Pakistan (2014 – 2018)

CERTIFICATIONS & ACHIEVEMENTS

- Project Management Certification — University of California, Irvine (Coursera, HEC Scholarship)
- Top Rated Freelancer, Upwork (2020–2021)
- Guest Speaker, COMSATS University (ACM Chapter)