

SHUBHAM MATHUR

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WORK EXPERIENCE

Senior Software Engineer

Jan 2024 - Jan 2026

Vimeo

Remote, India

- Strategic Compliance (Age Assurance):** Architected platform serving **4.5M+ users** to meet **UK Online Safety Act** mandates, mitigating revenue risks (10% of global turnover). Engineered a **Zero-Trust architecture** that eliminates SPI persistence via vendor-edge filtering, reducing GDPR liability by **100%**. Designed "Exemption Workflows" to bypass verification for premium users, safeguarding high-value revenue streams from churn.
- Legacy Modernization Architecture (Identity):** Designed the architectural blueprint for "Anumati," a **Golang** microservice intended to decouple authentication from the legacy PHP monolith. Reverse-engineered 15 years of undocumented logic to map the **Strangler Pattern** migration strategy and implemented core pre/post-login flows to prepare for system decomposition.
- Backend Scaling (User Deactivation Engine):** Re-architected the deactivation system using **Domain-Driven Design (DDD)** and **Asynchronous Queueing**. Scaled "Doppelganger" bulk processing capacity from 4K to **50K+ accounts** per batch, resolving HTTP timeouts. Reduced general deactivation processing time by **99.9%** (from 2 days to less than 5 mins) and reconciled **195K+ inconsistent records**.
- Security Engineering (MFA):** Identified a critical logical flaw in the Multi-Factor Authentication flow and **authored the strategic design specification** for a "Backup Recovery Code" system to mitigate account takeover risks. Optimized internal "Modworld" tooling by refactoring SQL queries to eliminate timeouts on high-volume accounts and resolving complex UTF-8 encoding data corruption issues.
- Observability & Reliability:** Defined **SLOs** and instrumented custom Grafana dashboards to visualize queue health, achieving **0%** data inconsistencies post-launch. Authored **technical specifications** for the Compliance and Auth domains, establishing the primary architectural reference for cross-functional teams.

Engineer 2

Nov 2021 - Jan 2024

McKinsey & Company

Bengaluru, India

- Architected **GenAI-powered backend services** for enterprise banking IVR, designing secure OpenAI integration layers with PII redaction and stateful conversation orchestration using **NestJS**.
- Built **event-driven medication adherence platform** using **Azure Functions and Twilio**, implementing fault-tolerant message routing and scheduling flows with **HIPAA-compliant** healthcare data handling. Delivered reliable patient engagement workflows at scale.
- Optimized **NestJS microservices** serving **500K+ monthly users**, reducing database query latency through intelligent caching and index optimization. Led architecture reviews, mentored junior engineers, established API design standards, and drove CI/CD automation adoption across engineering teams.

Engineer 1

Jul 2018 - Nov 2021

McKinsey & Company

Bengaluru, India

- Designed **microservices architecture** for Malaysian banking self-service platform serving **20M+ customers**, decomposing legacy SOAP integrations into **REST-based services**. Increased relationship manager productivity by **60%** through workflow automation and API modernization.
- Developed **insurance recommendation engine** for **1.3M users** using React and Node.js, improving operational efficiency by **90%**. Built telecom customer platforms for **10M users**, increasing test coverage by **40%** and strengthening session management reliability.

EDUCATION

Vellore Institute of Technology

2018

Bachelor of Technology, Information Technology

Vellore, India

SKILLS

Languages: JavaScript, TypeScript, SQL; **Familiar:** Go (Golang), PHP, Java, Python

Frontend: React, Next.js, Tailwind, Web Security (CSP/XSS), Jest, Storybook

Backend: Node.js, NestJS, Express.js; **Familiar:** Spring Boot, FastAPI

Databases: PostgreSQL, MySQL, Redis, MongoDB; TypeORM, Sequelize

Cloud & DevOps: Docker, GitHub Actions, CircleCI; **Familiar:** AWS, Azure, GCP, Kubernetes, Grafana

Architecture: Microservices, Domain-Driven Design (DDD), Event-Driven Systems, REST APIs, GraphQL, gRPC, OAuth 2.0, Asynchronous Processing, Message Queues