

MANOJ KUMAWAT

Senior Backend Engineer | Node.js · TypeScript · GraphQL · AWS · Azure · Cloudflare · Cybersecurity

+91-9872509458 | me@imkumawatmanoj.com | imkumawatmanoj.com | linkedin.com/in/imkumawat | github.com/imkumawat

SUMMARY

Senior Backend Engineer, 6 years across product and security engineering — including 4+ years building e-commerce and subscription systems serving 1.6M+ users and 400K+ active subscriptions. Expertise in Node.js/TypeScript, GraphQL (Apollo) and REST API design, fault-tolerant event-driven architecture, and AWS: led a full Shopify platform migration, cut cloud spend ~50%, and run a monitored, idempotent payout pipeline processing \$150K+/month. Cybersecurity background (OWASP Top 10, VAPT) — I architect systems secure-by-design: hardened authentication, scoped authorization, rate limiting, and query complexity/abuse limits.

EXPERIENCE

Springworks

March 2022 – Present

Senior Backend Engineer — Burst Oral Care

Remote

- Led a full custom-platform to Shopify migration for a 400K+ subscription, 1.6M+ user store — implemented complex ambassador discount logic (40K+ codes) as Shopify Functions and cut over with no disruption to recurring billing.
- Sole DevOps owner for the platform — cut AWS spend ~50% (Aurora/RDS tuning, ECS/Kubernetes right-sizing, CloudWatch retention/log-ingestion tuning, S3/Glacier lifecycle) and replaced a \$2K/month hosted BI tool (Periscope/Sisense) with self-hosted Redash on EC2, eliminating ~\$24K/year in licensing.
- Designed and built the ambassador payout system from scratch with idempotent Stripe transfers and automated reconciliation — a robust design that prevents duplicate transfers under retries and failures, across \$150K+/month.
- Optimized a high-load analytics pipeline by rewriting correlated subqueries into indexed JOINS on a 17M+ row activity table, cutting database load ~91% — diagnosed through slow-query analysis and composite index design.
- Built and operated REST APIs across subscriptions, payments, and orders (500K+ requests/day) on Aurora MySQL (12M+ row order tables), holding p95 latency under production peaks via connection pooling, indexing, and query tuning.
- Architected event-driven sync on Shopify's GraphQL Admin API and webhooks, mirroring customers, orders, products, and discounts into internal systems for near-real-time analytics and automation.
- Hardened the platform edge with Cloudflare — WAF rules, rate limiting, and Turnstile bot protection on abuse-prone endpoints, plus Workers and Pages for edge logic and static delivery; offloaded traffic from origin and reduced attack surface.
- Implemented Shopify Functions (cart validation, purchase restrictions, delivery customization, custom discounts), retiring paid third-party apps; built custom B2B/wholesale recurring billing Shopify could not natively support.
- Built custom MCP (Model Context Protocol) servers and connectors in TypeScript exposing internal systems (production database, Shopify, AWS) as structured, read-scoped tools — enabling safe AI-assisted operations and investigation over production data without direct credential exposure.

Truminds Software Systems

July 2020 – February 2022

Security Engineer — Penetration Testing & VAPT

Gurgaon, India

- Performed end-to-end VAPT (vulnerability assessment & penetration testing) on web applications, REST APIs, and network infrastructure — combining manual exploitation on Kali Linux with Burp Suite, OWASP ZAP, sqlmap, Nessus, and Metasploit to uncover and exploit OWASP Top 10 flaws (SQL injection, broken access control, XSS, IDOR, auth bypass).
- Chained real-world attack paths — from injection and broken authentication to privilege escalation — and delivered detailed exploit walkthroughs, risk ratings (CVSS), and remediation guidance that engineering teams shipped to closure.
- Drove secure-by-design practices across teams — threat modeling, secure-coding reviews, and shift-left security in CI — eliminating recurring vulnerability classes and building the security instincts I now apply as a backend engineer.

PROJECTS

blue-node — backend reference implementation

2026

Node.js, TypeScript, Express 5, Apollo GraphQL, Postgres, MongoDB, Redis, AWS

github.com/imkumawat/blue-node

- Modular monolith in TypeScript (ESM) on Express 5 — per-module REST + GraphQL (Apollo) adapters over Postgres (Drizzle), MongoDB, and Redis, plus an MQTT 5 broker client as a resilient shared transport (auto-reconnect, graceful degradation); BullMQ + standalone SQS worker for background jobs.
- Per-request DataLoader batching to eliminate resolver N+1 (order-preserving batch queries behind a request-scoped context), with query-complexity limits on incoming operations.

- Directive-driven GraphQL security enforcement at the schema level — `@authenticated`, `@requireScope`, `@rateLimit`, and alias-abuse protection.
- Unified JWT auth core for REST + Apollo — access/refresh-token rotation & reuse detection, scoped permissions, and per-IP/account logout.
- Multi-instance real-time layer — WebSocket transport with a connection manager and Redis Pub/Sub fan-out (rooms) so events reach clients across horizontally-scaled instances; graceful shutdown drains in-flight requests and jobs on SIGTERM, with pino logging and CI (GitHub Actions + Azure DevOps) running typecheck, lint, and Vitest gates.

SKILLS

- **Languages:** TypeScript, JavaScript (Node.js, ES6+), Python
- **Backend & API:** GraphQL (Apollo), REST, Express 5, WebSockets, DataLoader
- **Data:** MySQL (Aurora), PostgreSQL, MongoDB, Redis
- **Messaging & Events:** AWS SQS/SNS/EventBridge/Kinesis, BullMQ, MQTT 5, event-driven architecture
- **Cloud & DevOps:** AWS (ECS/Fargate, EKS, EC2, Lightsail, Lambda, API Gateway, Aurora/RDS, DynamoDB, ElastiCache, Redshift, Airflow, S3/Glacier, CloudFront, Route53, WAF, IAM & Identity Center, Cognito, Secrets Manager), Cloudflare (Workers, Pages, Containers, Durable Objects, Queues, Workflows, R2, KV, D1, WAF, Rate Limiting, Turnstile, Zero Trust, DNS, Load Balancing), Azure (Functions, Container Apps, Blob Storage, Front Door), Kubernetes, Docker, CI/CD (GitHub Actions, Azure DevOps, CodePipeline, ECR)
- **Observability:** CloudWatch, OpenSearch, Sentry, structured logging (pino)
- **Security:** OWASP Top 10, VAPT (Kali Linux, Burp Suite, OWASP ZAP, Nessus, sqlmap, Metasploit), SAST (SonarCloud), secure coding, refresh-token reuse detection, rate limiting
- **AI & LLM Tooling:** Model Context Protocol (MCP) — custom remote servers & connectors for Claude, AI-assisted development (Claude Code), prompt engineering
- **Frontend:** Next.js, React

EDUCATION

Lovely Professional University
B.Tech in Computer Science & Engineering

Punjab, India
July 2016 – June 2020