PRATIK RAJ

Software Engineer · Application Security · Backend · Full Stack

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PROFESSIONAL SUMMARY

Software Engineer with 1 year of production experience at **RateGain Travel Technologies** engineering high-concurrency Java microservices, HTTP connection pools, and Kubernetes deployments. Specialized in **API Resilience**, **Application Security (OWASP Top 10)**, and **Full-Stack Systems**. Proven track record of upgrading legacy enterprise integration pipelines, eliminating thread contention bottlenecks, and deploying real-time JVM observability dashboards.

WORK EXPERIENCE

RateGain Travel Technologies — *Software Engineer* **Oct 2025 – Oct 2026** | India

- **Java HTTP Integration Modernization:** Modernized enterprise HTTP client integrations by upgrading Apache HttpClient 3.1 → 4.5.14 across high-volume supplier APIs, eliminating legacy synchronized thread bottlenecks.
- **Connection Pooling & Resilience:** Configured PoolingHttpClientConnectionManager with tuned socket timeouts, connection TTLs, and exponential backoff retry policies, ensuring zero thread starvation during upstream supplier drops.
- **Kubernetes & Helm Infrastructure:** Authored modular Helm charts and Kubernetes manifests for environment-specific application deployments, supporting blue/green rollouts and reliable production environments.
- **JVM Observability & Dashboards:** Built real-time Grafana dashboards tracking JVM heap memory allocation, Eden/Old Gen garbage collection pause durations, and HTTP thread pool saturation to rapidly triage performance anomalies.
- **Production Incident Triage:** Diagnosed and resolved high-severity production defects through distributed log tracing, thread dump inspection, and memory leak analysis.

FEATURED PROJECTS

Inkwell · Production Blog Platform REST API [Java 17, Spring Boot, Spring Data JPA, PostgreSQL, Docker] inkwell.anovid.com | GitHub

- Architected and deployed an end-to-end RESTful content publishing service from scratch to production on custom domain inkwell.anovid.com.
- Structured layered Spring Boot architecture (Controller, Service, Repository) with strict DTO separation, robust input validation, and optimized JPQL queries preventing N+1 query overhead.
- Containerized service with Docker for automated reproducible staging and production deployments.

TatkalX · High-Concurrency Railway Booking Engine [Java, Distributed Systems, Concurrency, SQL] GitHub

- Engineered a high-throughput ticket reservation engine designed to resolve race conditions and seat locking during peak booking burst windows.
- Implemented distributed seat reservation queue with temporary TTL locks guaranteeing atomic inventory decrement with zero overselling under multi-threaded load.
- Decoupled reservation submission from payment confirmation using transactional state machines and idempotent request handling.

TECHNICAL EXPERTISE

Languages:	Java (8/11/17+), JavaScript, TypeScript, SQL (PostgreSQL), Bash
Backend & APIs:	Spring Boot, Spring Data JPA, Hibernate, RESTful APIs, Node.js, Express.js, Connection Pooling
Cloud & DevOps:	Docker, Kubernetes, Helm Charts, CI/CD Pipelines, Git
Observability:	Grafana, JVM Metrics & GC Analysis, Prometheus, Application Logging
Application Security:	OWASP Top 10, Auth0, JWT & RBAC, Secure Coding, Input Validation, CORS/CSRF Hardening
Databases & Cache:	PostgreSQL, MongoDB, Redis
Frontend:	React.js, Next.js, Tailwind CSS, HTML5, Canvas