

# Kartik Jha

Senior Backend Software Engineer - Distributed Systems & Platform Engineering

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## Professional Summary

7+ years of backend software engineering experience building **always-on, low-latency, high-concurrency systems** that scale for millions of users. Expert in **Java, Go, and Node.js** with deep expertise in **microservices architecture, cloud platforms (AWS), and distributed systems**. Proven track record delivering **production-grade services** with **99.9% uptime** across enterprise software, fintech, and media streaming platforms. Specialized in **system performance optimization, event-driven architectures, and platform engineering**.

## Core Technical Expertise

Languages:	Java, Go, JavaScript, TypeScript, Python, Ruby
Backend Frameworks:	Spring Boot, Node.js, Express, Django
Microservices:	Service-oriented architecture, API gateways, distributed systems
Cloud & Infrastructure:	AWS (Kubernetes, Lambda, EC2), Docker, Jenkins, GitOps
Databases:	PostgreSQL, MongoDB, MySQL, Redis (distributed caching)
Event Systems:	Kafka, RabbitMQ, WebSockets (real-time messaging)
API Design:	REST, gRPC, HTTP/HTTPS, service mesh architecture
DevOps:	CI/CD pipelines, automated testing, production monitoring

## Professional Experience

Technical Lead

Wissen Technologies (Diligent Enterprise Platform)

May 2025 - Present

Leading backend engineering for enterprise automation platform serving 10,000+ concurrent users

- Microservices Transformation:** Architected migration from Rails monolith to Node.js microservices, achieving **20% faster deployments** and **15% infrastructure cost reduction** through optimized service decomposition
- High-Concurrency APIs:** Designed and implemented REST APIs handling **2,000+ concurrent robot executions** with sub-100ms response times using advanced caching and database optimization techniques
- Event-Driven Architecture:** Built distributed task management system with Kafka-based event processing, reducing system coupling and enabling horizontal scaling across multiple service instances
- Production Reliability:** Implemented comprehensive monitoring, automated recovery mechanisms, and circuit breakers achieving **99.9% system uptime** with zero-downtime deployments

## Senior Software Engineer

February 2025 - July 2025 (Freelancer)

puffles.io (Cryptocurrency Platform)

Backend Platform Engineering for high-traffic NFT marketplace

- **Kubernetes Infrastructure:** Migrated serverless architecture to self-managed Kubernetes cluster, scaling from **100 to 2,000 concurrent users** while improving cost efficiency and system control
- **Performance Engineering:** Optimized Node.js backend achieving **10x concurrency improvement** through connection pooling, caching strategies, and database query optimization
- **Load Testing Framework:** Developed comprehensive testing infrastructure enabling systematic performance validation and capacity planning for production scaling

## Senior Software Engineer

July 2023 - September 2024 (Freelancer)

Viewlift (Media Streaming Platform)

Real-time Systems & Payment Infrastructure for millions of users

- **WebSocket Server (Go):** Built high-performance real-time communication system supporting **5,000+ concurrent sessions** with **<50ms message latency** for collaborative features
- **gRPC Migration:** Modernized payment APIs from TypeScript to Go with gRPC, reducing request latency by **25%** and improving system throughput for billing operations
- **Kubernetes Optimization:** Rewrote subscription services for cloud-native deployment, achieving **40% reduction** in compute costs and improved auto-scaling capabilities

## Senior Software Engineer

September 2021 - April 2023

BrowserStack (Developer Platform)

Platform Engineering for global developer infrastructure serving millions of tests daily

- **Kubernetes Migration:** Led app signing service migration to AWS Kubernetes, reducing deployment times from **45 to 20 minutes** and improving system reliability
- **Distributed Caching (Java):** Implemented SQLite-based caching layer reducing device state retrieval by **30%**, optimizing performance for global device farm infrastructure
- **Automated Recovery (Java):** Developed monitoring and self-healing systems using Java and Groovy, reducing manual intervention by **50%** and ensuring 24/7 service availability

## Software Engineer

September 2020 - August 2021

Smallcase Technologies (Investment Platform)

Event-Driven Financial Systems handling high-frequency trading

- **Kafka Event System:** Architected event ingestion pipeline processing **1M+ daily events** with **<100ms latency** for real-time portfolio updates and order processing
- **Distributed Concurrency (Redis):** Implemented optimistic locking for AutoSIP orders using Redis, reducing failed transactions by **80%** while maintaining ACID properties
- **Financial Algorithms:** Built order matching and reconciliation system with leaky bucket algorithm, improving accuracy by **25%** in high-frequency scenarios

## Software Engineer

January 2019 - September 2020

Disney+ Hotstar (Video Streaming)

Video Platform Backend serving 400M+ users during peak events

- **Content Pipeline:** Developed scalable VOD ingestion system reducing encoding latency from **5 to 3.5 minutes** , optimizing content delivery for millions of concurrent streams
- **Spring Boot Cache (Java):** Built high-performance image tagging cache with REST APIs, decreasing personalized content retrieval by **40%** through intelligent caching
- **Workflow Optimization:** Enhanced ingestion APIs reducing processing failures by **25%** through improved error handling and retry mechanisms

Software Engineer

Roboticswares (Logistics Platform)

August 2017 - January 2019

Early-career backend development for supply chain management systems

- **Shipment Tracking:** Built real-time tracking system with React frontend and Node.js/Ruby backend, processing thousands of shipment updates daily
- **API Integration (Java/Spring Boot):** Implemented Leaflet mapping service cache reducing external API calls by **15%** and operational costs

## Education

Bachelor of Technology, Computer Science

DIT University - Dehradun, Uttarakhand







May 2017

GPA: 71.6%

## Notable Open Source Projects

<b>Load Test Utility</b> NPM CLI tool for comprehensive API performance testing with database metrics and JSON configuration support	<b>Chrome AI Extension</b> Innovative prototype using browser-native Gemini Nano for intelligent content summarization
<b>Code Quiver</b> Open-source utility library with modules for competitive programming in Java and JavaScript	<b>Color Sticks</b> 2D game engine focusing on performance optimization and color-based mechanics (Work in Progress)

## Technical Leadership & Impact

 <b>Scale Engineering:</b> Built systems supporting <b>5,000+ concurrent users</b> and <b>1M+ daily events</b>	 <b>Performance Optimization:</b> Consistently delivered <b>25-40% latency improvements</b> across production systems
 <b>System Reliability:</b> Achieved <b>99.9% uptime</b> through comprehensive monitoring and automated recovery	 <b>Cost Efficiency:</b> Delivered <b>15-30% infrastructure savings</b> through optimization and right-sizing
 <b>Team Productivity:</b> Led architectural migrations reducing deployment times by <b>50%+</b> and improving developer velocity	 <b>Technology Modernization:</b> Successfully migrated legacy systems to modern microservices architectures