

# DEEPAK KUMAR

Senior Backend Engineer — Distributed Systems | Java, Kafka, AWS | High-Throughput Event Pipelines

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## PROFESSIONAL SUMMARY

Backend engineer with 5 years of experience building distributed systems and high-throughput event-driven platforms using Java, Spring Boot, Apache Kafka, and AWS. Designed and deployed backend services processing millions of events per day with strong focus on reliability, fault tolerance, and horizontal scalability.

Experienced in building workflow orchestration pipelines, metadata-driven integrations, and cloud-native microservices deployed across multi-AZ environments. Passionate about designing scalable backend infrastructure and owning systems end-to-end from architecture to production operations.

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## CORE SKILLS

**Languages:** Java, Python, Shell Script

**Frameworks:** Spring Boot, REST APIs, Microservices Architecture, Event-Driven Systems, OOD

**Messaging:** Apache Kafka (partition-based parallel processing, consumer groups, high-throughput pipelines)

**Cloud & Infra:** Amazon AWS (EC2, S3, multi-AZ), Azure, Kubernetes, Docker

**Databases:** PostgreSQL, MySQL, MariaDB

**Tools:** Linux, Git, GitHub Copilot, Distributed Tracing, Log Analysis

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## PROFESSIONAL EXPERIENCE

### ***SDE II - Tata Consultancy Services (TCS) - May 2022 – Feb 2026***

- Designed and built high-throughput distributed backend services for financial trading systems processing millions of events per day using Java, Spring Boot, Apache Kafka, and PostgreSQL, ensuring fault tolerance and horizontal scalability in production environments.
- Architected scalable Kafka consumer services using partition-based parallel processing and consumer groups, enabling reliable message processing, task prioritization, and horizontal scaling across distributed workflow pipelines.
- Implemented metadata-driven integrations (SCIM APIs, SAML SSO) enabling reliable metadata propagation across enterprise systems with secure session management.
- Reduced API query latency by 40% by redesigning PostgreSQL indexing strategy and implementing efficient pagination for large-scale data catalogs in production systems.
- Designed and deployed cloud-native microservices on Kubernetes across multi-AZ AWS infrastructure, ensuring high availability, fault tolerance, and horizontal scalability in production environments.
- Investigated distributed system failures by analyzing Kafka event streams, service logs, and tracing data, improving workflow reliability across event-driven pipelines.

### ***Blockchain Developer — Tata Consultancy Services (TCS) - May 2021 – May 2022***

- Designed and implemented Ethereum-based smart contracts and decentralized applications in Solidity, applying object-oriented design principles to distributed transaction workflows.
  - Authored a research paper on decentralized content platforms integrating blockchain with distributed systems — demonstrating technical ownership.
  - Created 50+ scenario-based problem sets to evaluate engineering reasoning, code quality, and system design ability.
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## KEY PROJECTS & PLATFORMS

**Qubits of DPK** - Backend engineering education platform showcasing distributed systems architectures, system design case studies, and production backend infrastructure experiments.

**Purple Creation** - Designed and deployed a production web platform using Next.js and Vercel, implementing optimized hosting, performance tuning, and scalable content delivery.

**KB Associates** - Built and deployed production web platform with service workflows and optimized cloud hosting infrastructure.

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## OPEN SOURCE CONTRIBUTIONS

### **Apache Fineract - Google Summer of Code 2026**

- Contributing to Apache Fineract by migrating integration tests from RestAssured to type-safe Feign clients (FINERACT-2441), improving test reliability and maintainability across a globally used open-source financial platform.
  - Delivered 5+ merged PRs, 20+ migrated tests, and 30+ commits - demonstrating passion for automated testing and engineering best practices.
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## RESEARCH PUBLICATION

**Metaplay — A Decentralized Content Marketplace Architecture** | Zenodo, March 2026 | [zenodo.org/records/19161365](https://zenodo.org/records/19161365)

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## CERTIFICATIONS

- **AWS Certified Solutions Architect – Amazon Web Services (2026)**
  - **Microsoft Certified: Azure Developer Associate – Microsoft (2026)**
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## EDUCATION

**Master of Computer Applications (MCA)** - Sastra University - CGPA: 8.5

**Bachelor of Science – Computer Science** - Sri Krishna Arts & Science College - CGPA: 8.0

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