

Hritik Rai

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Professional Summary

Software Engineer with 2+ years of experience building high-scale distributed systems and data infrastructure. Specialized in performance optimization, having led migrations handling 40M+ assets and achieving up to 12x performance improvements. Expert in Apache Atlas, Cassandra, Elasticsearch, and modern orchestration tools. Proven track record in architecting solutions for multi-tenant SaaS platforms, optimizing database operations, and implementing zero-downtime migrations across customer environments.

Technical Skills

Languages & Databases: Java, Python, Kotlin, JavaScript, SQL, MySQL, MongoDB, Cassandra, ClickHouse, PostgreSQL, Redis, DynamoDB, Elasticsearch

Backend & Frameworks: SpringBoot, NestJS, NodeJS, Express.js, Temporal, GraphQL, Django, REST APIs, Prisma ORM, Hibernate

DevOps & Cloud: AWS (EC2, Lambda, S3, SQS, CloudWatch), Docker, Kubernetes, Argo Workflows, Temporal, Kafka, Grafana, Prometheus, Mixpanel, LaunchDarkly, Apache Ranger, Git

Professional Experience

Software Development Engineer 2 (SDE 2) | AtlanHQ

September 2025 - Present

- Architecture Redesign:** Led migration from JanusGraph to Cassandra tables for specific vertex types, eliminating graph layer overhead and achieving **12x performance boost** by resolving single-property write bottlenecks.
- Cross-Tenant Tag Migration:** Orchestrated migration of **40M+ tags across multiple tenants** using **Argo Workflows** in under **3 hours** with zero downtime through distributed workflows.
- High-Scale Migration Optimization:** Improved JanusGraph-to-Cassandra vertex migration throughput from **500K to 1M+ vertices/hour** (2x) via optimized Gremlin usage and parallel processing.
- Temporal Orchestration Pipeline:** Architected **multi-tenant pipeline** using **Temporal** for **Cassandra** backups with **8x performance improvement** in tag operations through batch processing optimization.
- Feature Flag Infrastructure:** Implemented **LaunchDarkly** rollout strategy enabling cohort-based deployments with instant rollbacks for zero production impact.

Software Development Engineer 1 (SDE 1) | AtlanHQ

March 2024 - August 2025

- Apache Atlas Optimization:** Optimized **customized Apache Atlas fork** for heavy payload processing, reducing execution time from **72+ hours to under 10 hours** through query optimization and batch processing.
- Custom LexoRank Sort:** Designed LexoRank-based sorting integrated with **Elasticsearch**, enabling efficient sorting of **millions of metadata assets** with sub-second drag-and-drop performance.
- Search Performance:** Improved Elasticsearch search latency by **15%** by optimizing wildcard queries to deterministic pattern searches.
- Migration Optimizations:** Reduced internal metadata migration from **2 hours to 7.5 minutes** via intelligent caching.
- Memory Leak Resolution:** Resolved critical **multi-tenant memory leak** affecting all clusters. Developed **Python/Java** scripts recovering millions of assets with zero data loss.
- Monitoring Infrastructure:** Built **Grafana + Prometheus** dashboards tracking latency, query distribution, error rates, and system health metrics.

Software Development Engineer (Intern + SDE) | TartanHQ

October 2022 - September 2023

- Real-time Processing:** Built **AWS Lambda** and **SQS** pipelines for financial data processing, reducing data discrepancies by **25%** and processing time by **30%**.
- API Development:** Created scalable RESTful APIs with **Spring Boot** and **DynamoDB**, improving interoperability by **35%** with sub-100ms latency.
- Microservices Migration:** Contributed to monolith-to-microservices migration using **RabbitMQ**, implementing service discovery and API gateways.

- **Security Implementation:** Implemented OAuth 2.0 and JWT authentication with third-party identity providers for multi-tenant access control.

Education

Jaypee University of Information Technology | Solan, Himachal Pradesh
B.Tech in Computer Science | *Graduated: June 2023* | **CGPA: 8.14/10**

Achievements

- **5th Position** – JetBrains & iNeuron Kotlin Hackathon (June 2022)
 - **Winner** – Flipr FullStack Hackathon XII (February 2022)
 - **Best Hardware Hack** – MLH BonVoyageHacks (July 2021)
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Leadership

Webmaster, ACM JUIT | Managed technical activities, organized workshops/hackathons for 200+ students, maintained chapter infrastructure

CyberSecurity Team Lead, ACM JUIT | Led team, established learning paths, conducted security training and CTF competitions

Projects

Telemon: Self-Hosted AI Assistant | *Ongoing*

Tech Stack: OLLAMA 7B, Whisper, Telegram, Docker, Python, Linux

- Self-hosted AI assistant on private hardware using **OLLAMA 7B** for NLU and **Whisper** for transcription, deployed via **Docker** and systemd services.
- Automated productivity pipeline generating reminders, calendar entries, Notion documents, and journal classification with sentiment analysis.
- Secure webhook endpoints with rate limiting and authentication. Currently in beta with planned open-source release.