

Aakash Shankar

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PROFESSIONAL SUMMARY

Software engineer with experience in fullstack engineering and distributed systems, specializing in Java microservices. Demonstrated success building secure, multi-tenant cloud-native solutions leveraging AWS, Azure, and Kubernetes.

EXPERIENCE

Stealth Startup

June 2024 – Aug 2024

Software Engineer Intern

Remote, United States

- Engineered a system for customizing AI-generated data warehouse schema documentation in our knowledge base, resulting in **90% improvement** in column definition accuracy
- Led our **vector database** migration from ChromaDB to LanceDB, **reducing storage footprint by 40%** while enabling both semantic and keyword search capabilities.

Cloudera

Jul 2021 – Jul 2023

Software Engineer II

Bangalore, India

- Engineered a rapid autoscaling system for cloud infrastructure (AWS, Azure) using Spring microservices, reducing data processing time by 70% and **saving enterprise customers over \$1M in cloud expenditure**
- Developed an automated tracking system for cloud resource scaling, streamlining customer infrastructure management and improving operational efficiency by **30%**
- Led production support and incident response during on-call rotations, utilizing **Elasticsearch with KQL and Lucene queries** for efficient log analysis and rapid issue resolution
- Enhanced observability by implementing Spring Actuator and propagating telemetry data to **Prometheus and Datadog**, ensuring comprehensive visibility into microservices
- Automated deployment pipelines using Docker and Spinnaker for development and integration environments, improving deployment reliability and reducing manual intervention
- Led technical design reviews and **cross-functional collaboration** with product and design teams, driving feature releases from design to production

Cloudera

Jan 2021 – Jul 2021

Software Engineer Intern

Bangalore, India

- Developed a full-stack solution using Spring MVC and React, enabling customers to manage cloud service configurations through REST APIs and CLI, **reducing cluster setup time by 20%**

PROJECTS

GhastlyDB, a key value vector store | Go, LSM Trees, Distributed Systems, Vector Search

2024

- Architected a distributed key-value vector database using Log-Structured Merge (LSM) trees, achieving efficient data persistence with concurrent read-write operations and **optimized storage management**
- Implemented automated deployment pipeline using **GitHub Actions and Docker**, enabling continuous deployment of GhastlyDB instances and ensuring consistent testing and deployment environments
- Engineered a robust similarity search engine supporting multiple distance metrics (cosine, L2, dot product) with an **in-memory skiplist index**, enabling fast nearest neighbor lookups

Gallade, a faster build system for Java | Rust, Java, Maven, Build Systems, Concurrent Programming

2025

- Created a **high-performance Java dependency manager** in Rust that implements Maven repository protocol, featuring concurrent breadth-first artifact resolution
- Implemented version resolution algorithms and locking using dependency graphs, supporting semantic versioning and conflict resolution

EDUCATION

New York University

New York, NY

Master of Science, Computer Science (GPA: 3.9 / 4.0)

Expected May 2025

Graduate Course Assistant - CSYG 9163 Application Security

SKILLS

Languages: Java, Python, Go, Rust, SQL, TypeScript, C/C++

Frameworks & Tools: Spring Boot, Django, React.js, JUnit, Microservices, REST APIs, Datadog, Prometheus, Git, Linux

DevOps & SRE: Docker, Jenkins, CI/CD, SaltStack, Github Actions, Kubernetes, Heroku, Spinnaker

Cloud Platforms: AWS, Google Cloud, Azure

Databases: PostgreSQL, MongoDB, LanceDB, ChromaDB, ElasticSearch