Hrishank Chhatbar

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Summary

Software Engineer with MS @ USC and backend experience at AWS Lambda. Experience in building scalable, fault-tolerant distributed systems in Java and Python. Proven track record optimizing latency (P99 of 35µs) and preventing cascading failures in high-throughput environments.

Technical Skills

Languages: Java (Multithreading, Concurrency, Collections, JVM), Python, SQL, Bash, JavaScript, C#
Cloud & DevOps: AWS (Lambda, DynamoDB, S3, EC2, API Gateway, CloudWatch), Docker, Kubernetes, Terraform, Jenkins, CI/CD, Git
Frameworks: Spring Boot, Flask, Node.js, Angular, REST APIs, Microservices, JUnit, Mockito
Databases: MySQL, DynamoDB, NoSQL, SQL Server, Query Optimization
Concepts: Distributed Systems, Consensus Algorithms (Raft), System Design, Object-Oriented Design (SOLID), Fault Tolerance

Experience

Software Development Engineer (SDE) Intern Jun 2025 – Aug 2025
Amazon Web Services (AWS) - Lambda *Seattle, WA*

- Designed a dual-component load-shedding mechanism for the Lambda Frontend Invoke Service (LFIS) to prevent platform-wide outages, shifting from blunt "Sustained TPS" throttling to a precise "Concurrency Delta" model isolating "Top-Mover" accounts.
- Engineered a low-latency solution with a background "Monitor" thread and a lightweight "Handler" on the critical invoke path, ensuring the safety mechanism added 35µs P99 latency to production requests.
- Validated system resilience by reproducing historical outage scenarios (4X traffic spikes, 20min downtime) using JUnit simulation frameworks, proving the architecture prevents cascading failures under 10X load surges.
- Implemented production-grade safety using Feature Flags to support Shadow Mode validation, allowing the system to run live and tune parameters like *hostStressThreshold* without impacting customer traffic.

Associate Software Development Engineer Jan 2023 – Aug 2023
IDeaS Revenue Solutions *India*

- Improved application performance by 40% by refactoring legacy Java/Spring Boot code, optimizing time complexity in the pricing engine, and reducing memory footprint for real-time microservices architecture.
- Designed a robust Python ETL pipeline utilizing Pandas and SQL to automate data validation, ensuring data integrity across MySQL databases and preventing downstream forecasting errors.
- Debugged production issues in distributed revenue management system serving 50+ hotel chains, reducing incident response time by implementing comprehensive logging and monitoring solutions.

Software Engineer Intern Apr 2022 – Oct 2022
Volkswagen Group Technology Solutions *India*

- Developed an automated document processing system using Azure AI and Python, integrating REST APIs and training OCR models to achieve 95%+ accuracy in multi-language data extraction.
- Built a full-stack authentication service using Node.js, Angular, and MSSQL, implementing secure session management, JSON Web Tokens (JWT), and RBAC for 500+ enterprise users.

Technical Projects

Distributed Key-Value Store (Raft Consensus) | *Java, Docker, Multithreading* 2024

- Implemented the Raft consensus algorithm from scratch to manage leader election, log replication, and state machine safety across a distributed cluster with fault tolerance.
- Engineered thread-safe data structures using java.util.concurrent locks to handle concurrent requests without race conditions, validated through comprehensive JUnit test suite.

AI-Powered Document Q&A (RAG Pipeline) | *Python, AWS Bedrock, Lambda, Terraform* 2023

- Architected a serverless Retrieval-Augmented Generation (RAG) pipeline using AWS Bedrock for embeddings and vector search, enabling low-latency natural language querying of unstructured documents.
- Automated infrastructure provisioning using Terraform and CI/CD workflows for repeatable deployment of AWS resources with zero-downtime updates.

Education

University of Southern California (USC) Los Angeles, CA
Master of Science in Engineering Management, Minor in Business Analytics; GPA: 3.9/4.0 *Dec 2025*

Maharashtra Institute of Technology (MIT Pune) Pune, India
Bachelor of Technology in Electronics and Computer Engineering; GPA: 3.97/4.0 *Aug 2023*