

RUTUJA NIKUMB

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EDUCATION

University of Colorado, Boulder

MS in Computer Science

Aug 2025 – May 2027

GPA: 3.9/4.0

MKSSS' Cummins College of Engineering, Pune

B.Tech in Information Technology

Aug 2019 – May 2023

CGPA: 8.69/10

TECHNICAL SKILLS

Languages: Java, Python, C/C++, JavaScript, Bash, SQL

Frameworks & Libraries: Spring Boot, FastAPI, Node.js, ReactJS, Apache Hadoop, Apache Spark, Flask

Databases & Storage: Oracle, MySQL, MongoDB, SQLite, MINIO

Cloud: Google Cloud Platform(Google Kubernetes, Pub/Sub, Firestore)

DevOps: Docker, Kubernetes, CI/CD, Linux, GitHub Actions

Messaging & Streaming: IBM MQ, Redis

Certifications: Microsoft Azure Fundamentals (AZ-900), Cisco Networking Fundamentals

EXPERIENCE

Northern Trust

Software Engineer

Aug 2023 – Jul 2025

- Engineered enhancements for high volume Liquidity Systems using **Core Java**, **optimizing payment settlement workflows** and **eliminating 95% of manual interventions**.
- Optimized complex **Oracle SQL queries** by refactoring joins, indexing key tables, and analyzing execution plans, improving data retrieval performance by **40%** and reducing system load.
- Automated production deployments and routine ops using **Bash**, **Liquibase**, and GitHub Actions **CI/CD** pipelines, ensuring 100% deployment consistency across environments.
- Analyzed over **300K+ daily cash flow transactions** using **Oracle SQL**, identifying inefficiencies and automating **2,500 manual reconciliations per day** through data-driven optimization.
- Led infrastructure modernization by migrating to **RHEL8** servers and transitioning from **Standalone IBM MQ** to **MQ Appliance**, improving reliability, **scalability**, and throughput.

Software Development Intern

Jun 2022 – Aug 2022

- Designed a scalable **Java Spring Boot microservices framework** with **REST APIs**, adopted by **10+ banking applications**, replacing direct database calls and improving cross-system modularity by **30%**.
- Enabled **distributed caching** and **structured logging** with Hazelcast, cutting query latency from 40s to under 1s and boosting reliability by **95%**.

Citi

Project Trainee

Mar 2022 – Apr 2022

- Developed an **reconciliation system (Java Spring Boot, Node.js)** processing **100K+ transactions**.
- Automated feed generation and archival pipelines, ensuring zero-error validation and enhanced system reliability.

PROJECTS

TempoMind: Garmin-Spotify Heart-Rate Orchestrator | CU Boulder | GitHub

Dec 2025

- Engineered a **real-time ingestion pipeline** using **Garmin BLE** and **Redis Streams** to synchronize heart-rate telemetry with **Spotify Web Playback** for dynamic BPM-to-song matching.
- Architected a **multi-container environment** via **Docker Compose** (Redis, MinIO, SQLite) using **Socket.IO** to maintain sub-second state synchronization across ingestion, playback, and feedback UIs.
- Implemented a robust storage layer using **Redis** for transient data streams and **MinIO/SQLite** for persistent telemetry mirroring and session-history deduplication.

SemEval 2026 Task6 Political Evasion Detection | CU Boulder | GitHub

Dec 2025

- Designed and implemented a **multi-head NLP architecture** using **DeBERTA-v3** and **LUKE** encoders to classify political interview responses, effectively decoupling "clarity" and "evasion" metrics for more granular text analysis.
- Optimized transformer-based models** on the QEvasion dataset by developing shared contextual representations with specialized decision boundaries, resulting in consistent accuracy improvements and reduced training loss across complex linguistic tasks.

Identity and Access Management System | 2nd Place at National Project Competition by IETE **May 2023**

- Built a full-stack **authentication and authorization platform** using **Java Spring Boot (MVC)**, **ReactJS**, and **MongoDB**, implementing **JWT**, **OAuth 2.0**, and session-based logins for multi-role access control.
- Integrated a **machine learning–driven Risk-Based Authentication model**, dynamically adapting security levels and improving system accuracy and reliability.