Risshi Raj Sen

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LinkedIn *Github* *risshi.codes*

Summary

Backend-focused software engineering student with high interest in developing scalable, high-performance services and managing complex database systems. Possessing strong proficiency in full-stack development, with additional interest in Agentic AI.

Skills

Backend	NodeJS, Express, BullMQ
Databases	Postgres, MongoDB, Redis
DevOps	Linux, Git, Github, Docker, Azure Cloud
Frontend	ReactJS, React Native, Tailwind
Blockchain	Solidity, Truffle, Ganache
Artificial Intelligence	Computer Vision, MCP

Education

B.Tech Computer Science and Engineering Bennett University, Greater Noida GPA: 8.77 2023 – 2027 (Expected)

Work Experience

Software Development Intern Jun 2025 – Aug 2025 Empty Cup Ltd. (Remote)

- Implemented rate limiting for computationally intensive API endpoints within a Svelte + Flask monorepo.
- Built collaborative project features allowing multiple users to work on shared projects.
- Implemented automated quotation and billing calculation workflows.
- Investigated and resolved backend defects across multiple modules.

Projects

- **Scalable Ride Sharing Backend** — NodeJS, BullMQ, PostGIS, Turborepo *Github*
  - Built a TypeScript monorepo separating API gateway, worker services, and shared modules.
  - Implemented real-time proximity ride matching using PostGIS spatial queries.
  - Designed resilient async processing pipeline using BullMQ + Redis with retry/backoff.
  - Implemented JWT authentication, Zod validation, structured logging, and Docker deployment.
- **Autonomous Infrastructure Observability Agent** — FastAPI, Vector Search, Docker, LLM Agents *Github*
  - Developed log monitoring system using semantic vector drift analysis for anomaly detection.
  - Reduced embedding compute by 80% using caching in the embedding pipeline.
  - Implemented HNSW-based vector similarity search for anomaly detection.
  - Built LLM-powered root cause analysis agent with SSE streaming dashboard.
- **Distributed Media Processing Pipeline** — NodeJS, BullMQ, Redis, Azure *Github*
  - Built scalable asynchronous video conversion pipeline using Redis-backed job queues.
  - Implemented file hash idempotency checks preventing duplicate processing.
  - Enabled horizontal scaling through distributed worker architecture.
- **Redis-based Key Value Store** — C++ *Github*
  - Implemented Redis commands GET, SET with PX expiration.
  - Built RESP protocol parser supporting multiple datatypes.
  - Focused on memory efficiency and thread-safe key expiration handling.

Achievements

- Bennett Hackaccino AI Track Winner — 2024
- Microsoft Innovate Hackathon Finalist — 2025