SARTHAK CHATURVEDI

sarthakchat2018@gmail.com | +91-8006164396 | linkedin - Sarthak Chaturvedi | GitHub - mayhemking007

SUMMARY

Backend Engineer experienced in designing scalable, fault-tolerant systems for production environments at Tata Consultancy Services. Built distributed processing pipelines, optimized REST APIs for high-traffic workloads, and engineered low-latency semantic retrieval systems using PostgreSQL (pgvector) and HNSW indexing. Proficient in Node.js, database optimization, and backend architecture with strong algorithmic foundations (700+ LeetCode). Focused on building performant systems that scale reliably and handle real-world complexity.

EXPERIENCE

Web Developer — Tata Consultancy Services (TCS)   Feb 2025 – Present
Tech Stack: Node.js, React.js, MySQL, Redis, Git, Linux
  – Maintained and enhanced **backend business logic** across **350+ service categories** within a **large-scale e-commerce procurement platform** serving **4+ lakh users** with millions of annual transactions.
  – Developed and delivered **production-grade features** for service onboarding, validation, and lifecycle management, improving overall system efficiency by **25–30%**.
  – Optimized **API workflows and backend processing**, reducing latency and improving reliability under **high-traffic conditions** involving thousands of concurrent users.
  – Debugged and resolved **critical production issues**, reducing recurring service-related user problems by **35–40%**.
  – Partnered with **10+ cross-functional teams** (QA, infra, release, support) to troubleshoot production incidents, streamline deployment workflows, and maintain **high system stability** across releases.

PROJECTS

Distributed Retrieval and Evaluation Pipeline | *Microservice RAG + LLM Evaluation System*
Node.js, PostgreSQL (pgvector), Redis, BullMQ, OpenAI API, Docker, Microservices
  – Engineered a microservice-based **RAG + evaluation architecture** with separate retrieval and evaluation services communicating via internal APIs.
  – Implemented an asynchronous **LLM evaluation pipeline** using BullMQ workers to score answers for groundedness and hallucination detection.
  – Integrated semantic retrieval with pgvector embeddings and automated **answer quality assessment**, enabling end-to-end query validation.
  – Containerized the system with **Docker Compose**, orchestrating API servers, workers, Redis queues, and PostgreSQL for scalable deployment.

Team Track (Jira-mini) | *Full-Stack Web Application*
Node.js, Express.js, MongoDB, React.js, Tailwind CSS, JWT, REST APIs
  – Designed a **hierarchical workflow engine** (Team → Project → Sprint → Task), enabling structured task planning and execution across multiple teams.
  – Built backend services supporting **task lifecycle management**, **role-based access control (RBAC)**, team invitations, and permission-based actions using **JWT-secured REST APIs**.
  – Structured **MongoDB schemas** to maintain consistency across nested entities and support **concurrent multi-user updates**, modeling real-world issue-tracking system behavior.

EDUCATION

KIET, Ghaziabad   Graduated 2024
B.Tech in Computer Science and Engineering   *Ghaziabad, Uttar Pradesh*

TECHNICAL SKILLS

Programming: JavaScript, TypeScript, C++, Data Structures and Algorithms
Frontend: React.js, Next.js, Tailwind CSS, HTML, CSS, Responsive Design
Backend: Node.js, Express.js, REST APIs, Redis, BullMQ, WebSockets
Databases: SQL (PostgreSQL, MySQL), MongoDB, Prisma ORM, pgvector
Applied AI/GenAI: LLMs, Embeddings, Tokenization, Retrieval-Augmented Generation (RAG), Prompt Engineering, Vector Databases, Semantic Search
Tools: Git/GitHub, Linux, Docker, Postman, Jira