

Kratik Jain

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Full-Stack Engineer | Backend-Heavy | Distributed Systems

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B.Tech - Electronics and Communication Engineering

Github | LinkedIn | kratix.in

Sardar Vallabhabhai National Institute of Technology, Surat (NIT SURAT)

EDUCATION

•Sardar Vallabhbhai National Institute of Technology, Surat (NIT Surat)

2025

B.Tech – Electronics and Communication Engineering | CGPA: 7.55

Surat, India

•MPBSE Board

2021

Senior Secondary | Percentage: 94.8%

India

•CBSE Board

2019

Secondary | Percentage: 93.8%

India

EXPERIENCE

•NSE Clearing Limited

Aug 2025 - Present

System Analyst

Mumbai, India

- Maintain **high-availability client-facing applications and APIs** in production across distributed server environments, monitoring via **ITRS alerts, logs, and system metrics** and resolving **real-time incidents during live market hours**.
- Manage **Linux infrastructure** including **server provisioning, RHEL migrations, process monitoring**; automate workflows using **Bash and Python** and coordinate releases, **SOD/EOD operations**, and **Control-M integrations**.

•Keysight Technologies

March 2025 - July 2025 *Certificate*

Intern Tech I

Gurugram, India

- Developed and maintained **enterprise CPQ** configuration systems using **JavaScript** and **Handlebars.js**, implementing commerce rules and validation logic that streamlined product configuration workflows across cross-functional teams.
- Built and debugged **Salesforce** applications using **Apex (classes, triggers, SOQL)** and **Lightning Web Components**.

PROJECTS

•CodeSync

2025

Real-Time Collaborative Code Editor

Github | 40+ APIs, 10K user architecture

- Built a full-stack collaborative code editor enabling **real-time multi-user editing** using **CRDT (Yjs)** with **live cursor tracking, in-editor chat, version history**, code snippets, **GitHub OAuth login**, and activity heatmaps across **7 pages and 16 React components**.
- Engineered a **Docker-sandboxed code execution engine** supporting **10 programming languages** with strict resource isolation (**50MB RAM, 0.5 CPU, no network, 10s timeout**) using **BullMQ job queues** for asynchronous processing.
- Scaled architecture from **500 to 10,000 concurrent users (20x)** using **Redis pub/sub** for WebSocket scaling, **Prisma singleton pattern** (reducing DB connections by **87.5%**), **Redis caching (30s TTL)**, and **PM2 cluster mode**.
- Achieved **41K+ requests/sec (<1ms P95 latency)** in load tests and **98 Lighthouse score (508ms FCP, 572ms LCP)** while securing the platform with **httpOnly cookies, Zod validation, rate limiting**, and **session invalidation**.
- **Tech Stack:** Next.js 14, Express.js, PostgreSQL, Prisma, Redis, Socket.io, Yjs, Docker, BullMQ

•Metaprobe

2025

Security-First HTTP Intelligence Platform

Github | 58 tests, 79% coverage

- Built an **HTTP metadata collection and security analysis platform** that fetches **headers, cookies, SSL certificates, and page metadata** from URLs and generates **security grades (A+ to F)** based on **7 security headers, cookie flags, HTTPS enforcement, and server fingerprinting**.
- Optimized collection throughput using **async I/O (httpx)**, **Redis cache-aside strategy**, and **background task deduplication**, supporting **single, bulk (10-concurrent)**, and **real-time WebSocket workflows** across **12+ API endpoints**.
- Authored 2.3K+ lines of production Python with **79% automated test coverage (58 tests)** enforced via **CI pipeline** using **Ruff linting** and **mypy strict type checking** with **0 errors across 21 modules**.
- Containerized the stack using **Docker Compose (FastAPI + MongoDB + Redis)** with **multi-stage builds, non-root execution, health checks**, and **Prometheus /metrics instrumentation** for **production observability**.
- **Tech Stack:** Python, FastAPI, MongoDB, Redis, Docker, httpx, WebSockets, Prometheus, pytest, GitHub Actions

TECHNICAL SKILLS

• **Programming:** C++, JavaScript, Python, SQL

• **Backend Development:** Node.js, Express.js, FastAPI, REST APIs, WebSockets

• **Databases & Caching:** PostgreSQL, MongoDB, Redis, Prisma

• **Distributed Systems:** Pub/Sub (Redis), CRDT (Yjs), Job Queues (BullMQ), Caching Strategies

• **DevOps & Infrastructure:** Docker, PM2, GitHub Actions CI/CD, Linux

• **Frontend:** React.js, Next.js, Tailwind CSS

• **Developer Tools:** Git, GitHub, Postman, VS Code

ACHIEVEMENTS

• **CodeChef Rating: 1591 (3★)**, Competitive Programming Profile

Mar. 2026

• **JEE Main 2021**, Ranked in **Top 1.3%** among **1M+ candidates** nationwide

Feb. 2021

• **Google Winter of Code 2023**, Developed production website for startup **GingerArt**

Dec. 2023