UTTKARSH RUPAREL

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LinkedIn · GitHub · Portfolio · LeetCode · CodeForces

Skills

Cloud & Infrastructure: Kubernetes (Helm, ArgoCD), Docker, AWS (SQS, S3, RDS, Lambda, VPC), Terraform, GitHub Actions, Jenkins, Prometheus, Grafana, NGINX, Linux
Backend & Systems: Node.js, Express, Fastify, FastAPI
Databases & Messaging: PostgreSQL, MongoDB, Redis, Kafka, BullMQ, RabbitMQ
Testing: k6 (load testing), Jest (unit/integration), Playwright (E2E)
Languages: Java, Go, TypeScript, JavaScript, Python, SQL
Frontend: React, Next.js, Tailwind
Foundations: System Design, Data Structures & Algorithms, Object-Oriented Programming, Operating Systems, Computer Networks, Database Management Systems, Distributed Systems

Projects

BitLink — Distributed URL Redirection & Analytics Platform
AWS, Node.js, Express, Redis, NGINX, Docker, Terraform, Prometheus, Grafana

- Designed and operated a **stateless** URL redirection platform supporting short links, QR codes, and real-time analytics, optimized for the **redirect hot path** behind an **NGINX reverse proxy** on **AWS** using stateless, **horizontally scalable services**.
- Sustained **2–4K RPS** under burst traffic with **p95 redirect latency below 150 ms**, achieved through **Redis hot-path caching, request rate limiting**, and **horizontally scalable EC2 services**.
- Reduced **redirect-path latency by ~55–65% by decoupling** write-heavy analytics from **synchronous requests using Redis-backed background jobs**, with **Terraform-managed infrastructure**, **Prometheus/Grafana** metrics and tracing, and automated **Dockerized CI/CD**.

Anchor — Automated Student Productivity Platform
Next.js, Supabase, Redis, GitHub Actions, Docker

- Built modular backend workflows for authentication, assignments, attendance, and scheduling using TypeScript, eliminating redundant queries and simplifying request paths across core features.
- **Improved API latency by ~80% (1500 ms → 250 ms) by introducing Redis-backed caching** and a **Token Bucket rate limiter (~50 requests/bucket)**, preventing backend overload during peak usage.
- Implemented **CI/CD pipelines using GitHub Actions**, enabling automated builds, tests, and deployments and reducing manual deployment effort to near zero.

GradCircle — Alumni Engagement & Donation Platform
React, Node.js, Express, Supabase

- Implemented secure backend services for **JWT-based authentication, RBAC**, donation workflows, and voicebot integration to support alumni engagement and contribution flows.
- **Reduced API response times by ~60% (400 ms → 150 ms)** during donation and alumni operations by **optimizing query patterns and introducing database indexing.**

Education

B.Tech in Computer Science & Engineering | **CGPA: 7.53**
Symbiosis Institute of Technology, Pune (2023 - 2027)
Higher Secondary Education | **Percentage: 85.5%**
Excellencia Junior College, Secunderabad (2021 - 2023)

Leadership & Achievements

ACE 2.0 Finalist (September 2025) — Selected from over 400 teams for designing a smart-governance platform that unified key public services into a single system.

Competitive Programming Co-Head, GDSC SIT Pune (July 2025 – Present) — Organized coding contests, workshops, and mentorship sessions for 100+ students; supported problem-solving training and strengthened the community's CP engagement.