Kartik Jain

Backend Engineer | Security Researcher

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Summary

Backend engineer with a security background: designed a 276-route Node.js/TypeScript API on PostgreSQL behind two Google Play apps, maintains a college system for ~4,000 students, and earned a $1,500 bug bounty from Meta.

Education & Leadership

B.Tech, Information Technology | *SVKM's NMIMS MPSTME, Mumbai* | **CGPA: 8.34/10.0** Expected Apr 2028

- **Chairperson**, ACM MPSTME (~250 members); ex-Technical Head: Taqneeq, Mumbai MUN, Social Conclave, Sattva.
- Built a Discord bot that automatically onboarded 1,100+ hackathon participants, with auto team channels.

Experience

VisionRise Technosoft Pvt. Ltd. | *Software Engineer Intern* Apr 2026 – Oct 2026

- Designed a white-label learning platform's backend: 20 modules and 276 REST endpoints (Node.js, Express, TypeScript, Zod, PostgreSQL + Drizzle ORM) with audit logs; ships as two Google Play apps (Rise Academy, eGuru).
- Built JWT authentication with refresh tokens, Google Sign-In, WhatsApp-verified PIN login and role-based access control; secured paid video with AES-128-encrypted HLS, per-session playback tokens and signed GCS URLs.
- Integrated Zoom (signature-verified webhooks), Gemini quizzes, UPI payment verification and push notifications.
- Deployed Docker apps and PostgreSQL to a hardened Ubuntu server via Coolify CI/CD, with automated GCS backups.

R.U.D.R.A Cybersecurity Pvt. Ltd. | *Security Engineer Intern* May 2025 – Jul 2025

- Found 2 high-severity vulnerabilities (Local File Inclusion, broken access control) in a banking client's web portal through manual code review, then wrote custom Nuclei templates to detect them automatically.
- Automated external attack-surface monitoring with BBOT, saving ~$20,000/year of manual reconnaissance.
- Developed a custom Semgrep (SAST) module with Neo4j graph visualization for large-scale code analysis.

Freelance | *Backend & Security Engineer* May 2025 – Oct 2026

- Led ransomware incident response for a 16,000+ user platform: restored it from backups and hardened its servers.
- Delivered a live player-auction and scoring platform (Next.js, Supabase Postgres + Realtime) used at ELEV8, a ~200-player, 8-team pickleball tournament, with an offline write queue for unreliable venue Wi-Fi.

Projects

GhostShare | end-to-end-encrypted file sharing | *TypeScript, Next.js, Fastify, PostgreSQL, Redis, Docker* Live

- Streamed encrypted 5 MiB chunks directly to Cloudflare R2 with parallel, resumable uploads; realtime sync over Socket.IO with a Redis adapter for horizontal scaling; the server stores only ciphertext.

NeuroTechh | clinic booking prototype, first prize at MAL 4 | *React Native, Express, TypeScript, PostgreSQL* Source

- Designed with a 3-person team (HLD, LLD, 19 ADRs) and prototyped the booking API: row locks, a partial unique index, idempotency keys and version checks; 200 concurrent confirms on one slot produced exactly one booking.

Railway Concession System | MPSTME's official portal | *Next.js, PostgreSQL, Drizzle* Live

- Took over and maintain the system ~4,000 students use: migrated it to PostgreSQL, enforced an IST-aware booking window server-side, and automated daily collection reports for the college office.

Event & Payment Backends | NMIMS student events | *Python, FastAPI, Flask, PostgreSQL* Delego API | Payments

- Lead backend author of Mumbai MUN's Delego app (600+ delegates, 2024–25) and Taqneeq's credits engine (OTP auth, referrals, cached leaderboard); co-led paid registration with HMAC-verified Cashfree payment webhooks.

bad-db | storage engine from scratch: custom file format, B-Tree index, compaction, own query language | *Java* Source

Security Research & Awards

- Awarded a **$1,500 bug bounty by Meta** for a privilege-escalation vulnerability in WhatsApp.
- Reported access-control and information-disclosure flaws in Microsoft Intune and Exchange Admin to MSRC; responsibly disclosed a stored XSS on the Mumbai Police website through CERT-In.
- **Won 3 hackathons:** MAL 4 (Paytm, team of 3), chat.win AI Jailbreakathon (global), CodeForge 2026 (team).

Skills

Languages: TypeScript, JavaScript, Python, SQL, Java, Bash
Backend: Node.js, Express, Fastify, FastAPI, Flask, REST APIs, WebSockets, JWT/OAuth 2.0, RBAC, Zod, BullMQ
Data: PostgreSQL, Redis, MongoDB, Drizzle ORM, Prisma, Firebase, Supabase
Infra: Docker, Linux, Git, CI/CD (GitHub Actions), Coolify, Nginx, Google Cloud Storage, Cloudflare R2
Practices: System Design (HLD/LLD, ADRs), Data Structures & Algorithms, Unit Testing, Secure Code Review