RACHIT SINGH

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x SUMMARY

Backend engineer with a keen sense of UI, which naturally led me into full-stack development. I enjoy building scalable systems, designing clean APIs, and creating interfaces that are as thoughtful as the architecture behind them.

EXPERIENCE

Software Engineer Intern June 2026 – August 2026
SELLABROAD PTE LTD, Singapore-Remote

- Migrated a standalone checkout-analytics platform (Vite/React dashboard + Hono API + PostgreSQL) off third-party hosting into the core Next.js/Medusa monorepo, eliminating an external service and its recurring infrastructure cost.
- Resolved an international payouts failure in the Wise API integration, where AUD bank transfers were rejected for a missing recipient address, unblocking automated merchant payouts.
- Built a per-merchant feature flag to toggle order-confirmation emails, replacing a hardcoded merchant list that required a full redeploy for every change, scaling cleanly to 50+ merchants.
- Designed and shipped a Payout Transparency feature across the merchant dashboard and admin panel, surfacing a live in-construction payout amount (reusing the eligibility-filtered merchant balance), an Orders tab with per-order payout-status chips and filters, and merchant-facing Sync and Add Tracking actions that re-evaluate eligibility on demand, eliminating repeated support escalations around missing or stuck orders.
- Closed a payout-fraud exposure on the manual fulfillment path where any non-empty string could flip an order payout-eligible, investigated provider options, fail-closed the existing Ship24 integration (previously fail-open and never run on the manual path), added format sanity-checks to reject obviously fake tracking numbers, and shipped a probe script and hermetic unit tests.

Software Development Engineer Intern March 2026 – June 2026
XenotixLabs Pvt Ltd, Noida-Remote

- Developed and shipped client-facing MVPs across 4+ full-stack applications, leveraging AI-assisted workflows under senior guidance to reduce delivery timelines while upholding performance and security standards significantly.
- Deployed and managed backend services on AWS EC2, and used S3 for scalable file storage and uploads.
- Built and integrated payment gateway functionality (Razorpay) into client-facing applications, handling secure transaction flows end-to-end.
- Implemented CI/CD pipelines using GitHub Actions, automating build, test, and deployment processes to reduce release overhead.
- Designed and integrated BullMQ-based job queues for background processing and asynchronous task handling, improving application performance and reliability.
- Implemented two-factor authentication (2FA) and other security measures across full-stack applications, strengthening user authentication and data protection.

Tech Intern August 2024 – October 2024
Raasa Karts Pvt Ltd, Noida-UP

- Built responsive frontend screens and integrated them with backend APIs to deliver seamless end-to-end functionality.
- Implemented secure authentication flows, including login and session management, with robust backend support.
- Optimized UI performance through targeted improvements, resulting in faster load times and smoother user interactions.
- Conducted thorough API endpoint testing using Postman to validate request/response behavior and ensure reliability before deployment.

PROJECTS

Visitrail — URL Shortener with Real-Time Click Analytics —— *(LIVE)*

- **Tech Stack**: Go, chi, PostgreSQL (pgx + sqlc), Redis 7 (cache + Streams), React, TypeScript, Vite, Tailwind CSS, shadcn/ui, TanStack Query, Recharts, Clerk (OAuth), Docker Compose, Caddy, AWS EC2, Neon, Upstash.
- Architected a **URL shortener with a decoupled async analytics pipeline**: redirects serve from a Redis cache at sub-50ms p95 and fall back to PostgreSQL on cache failure, while each click is emitted to a Redis Stream and processed by a separate Go worker, so analytics never block or slow the redirect path.

- Engineered an **at-least-once event pipeline** with idempotent, deduplicated inserts and pre-aggregated rollup tables for country, device, browser, referrer, and privacy-preserving unique-visitor metrics; exposed via a REST API and a live React dashboard with 7/30/90-day timelines, QR codes, and shareable public stats.
- Implemented a **cookie-based ownership and security model** (anonymous browser tokens plus Clerk OAuth accounts with cross-device link claiming), hardened against SSRF and open-redirect abuse with reserved-alias blocking, CSRF protection, and Redis rate limiting.
- Deployed to **AWS EC2 via Docker Compose** with Caddy automatic TLS and a pull-based CI/CD pipeline (cron + Git) that auto-runs database migrations on every push; reduced the initial JavaScript bundle by roughly 60% with route-level code-splitting.

PeakStreak — YouTube Playlists to Trackable Courses —— *(LIVE)*

- **Tech Stack**: Next.js 15, TypeScript, PostgreSQL (Drizzle ORM), Auth.js (Google OAuth), YouTube Data API v3, Resend, Vercel Cron, Turborepo, Tailwind CSS, shadcn/ui.
- Built a **learning-accountability platform** that converts any YouTube playlist into a trackable course with realistic finish-date projections, daily streaks, and a GitHub-style progress heatmap; per-video watch progress captured automatically via a lightweight heartbeat API.
- Designed a **transactional streak engine** in PostgreSQL with timezone-aware day-boundary logic, evaluated by idempotent cron jobs that also trigger automated, timezone-aware reminder emails before a streak breaks.
- Engineered a **quota-safe YouTube integration**: server-side metadata fetching with 24-hour caching to stay within API limits, structured as a Turborepo monorepo with a shared typed UI package.

spec0 — Idea to Full Spec Package, AI Multi-Agent Pipeline —— *(LIVE)*

- **Tech Stack**: Next.js, TypeScript, PostgreSQL (Neon, Drizzle ORM), Inngest, Clerk, AWS S3, Razorpay, Tailwind CSS, Vercel.
- Built a **multi-agent LLM pipeline** of 7 specialized agents that converts a raw app idea into a complete spec package (PRD, technical architecture, security, UI/UX, ticket backlog), where each agent is grounded on all prior documents; full package generates in under 2 minutes.
- Engineered **durable background workflows** with Inngest: per-step automatic retries, self-healing runs with idempotent recovery from lost events, and a live status timeline streaming step progress, token usage, and latency to the UI.
- Shipped **payments and quota infrastructure**: Razorpay one-time checkout with signature-verified webhooks and idempotent unlocks, plus race-safe monthly usage limits via atomic PostgreSQL upserts.
- Designed a **provider-agnostic LLM layer** (OpenAI-compatible) with hot-swappable gateways (Mesh, Hugging Face, Gemini) and structured outputs validated against Zod schemas at the API boundary.

Fanout — Gmail-Native Personalized Bulk Sender —— *(LIVE)*

- **Tech Stack**: React, TypeScript, Vite, CRXJS, Manifest V3 (Chrome Extension), IndexedDB, chrome.identity OAuth, Gmail API, Tailwind CSS, TanStack Virtual, Vitest, pnpm monorepo.
- Built a **Manifest V3 Chrome extension** that sends personalized bulk email as N discrete `gmail.send` calls from the user's own Gmail, with per-recipient personalization, randomized throttling, and a daily-cap safety limit to protect the sending account.
- Architected a **service-worker-owned IndexedDB** with all campaign and recipient persistence routed through a typed message channel, so the content-script overlay at mail.google.com and the popup/options pages share one consistent, race-free data path.
- Engineered a **resilient send engine** using `chrome.alarms` as a resurrection fallback plus an in-worker timer to honor sub-30s throttle delays, with all Gmail DOM selectors isolated to a single file so scans degrade gracefully when Gmail's markup changes.
- Designed a **privacy-first, backend-free architecture** where PII never leaves the browser: a scrubbing logger strips emails, names, and content, and client-side `chrome.identity` OAuth keeps the app fully local with no server.

TECHNICAL SKILLS

Languages	TypeScript, SQL, C++, GoLang, Python
Frontend	React.js, Next.js, React Native, Redux Toolkit, Tailwind CSS
Backend	Node.js, Express.js
Databases	MySQL, MongoDB
Tools	Git, GitHub Actions, Postman, Antigravity

EDUCATION

Sunderdeep College of Management and Technology, BCA 2021 – 2024

Relevant Coursework: Data Structures, Web Technologies, Software Engineering, Algorithms