

AYUSH KUMAR SINGH

Full-Stack / Backend Engineer · MERN, Payments, Auth & Security

☎ +919305454214 ✉ singhayush.sa81@gmail.com 📧 trex-ayush 🌐 LinkedIn 🐙 GitHub 🌐 Website 📍 Bhopal, India

WORK EXPERIENCES

Associate Software Engineer | Full-time
Pabbly

Nov 2025 - Present
On-site • Bhopal, India

- **Built a payment reconciliation system** across **3 gateways** (Stripe, Razorpay, PayPal), using **concurrent cron jobs** with fair-share scheduling so no merchant starves others.
- **Migrated PayPal recurring billing** to the Subscriptions API with full backward compatibility and zero disruption to live subscriptions.
- **Resolved a production MongoDB connection exhaustion incident** through connection pooling and graceful shutdown, and removed redundant checkout API round-trips.
- **Shipped multi-key API authentication** with RBAC, custom domains, and transaction-fee billing, auto-migrating **100% of existing single-key users** with zero downtime.

Technologies / Skills Used : Stripe, Razorpay, PayPal, MongoDB

Full-Stack Developer Intern | Internship
Bluestock Fintech

Apr 2025 - May 2025
Remote • Remote

- **Developed an IPO analytics dashboard** in **React, Node.js, Express, and MongoDB** serving data across **10+ active IPO listings**.
- **Designed 15+ REST endpoints** with JWT authentication and role-based access control, and optimized MongoDB schemas with compound indexes and projection queries to cut query response time.

Technologies / Skills Used : React, Node.js, Express, MongoDB

PROJECTS

Scribble — Writing Platform | 📧 Trex-ayush 📧

May 2026 - Present

- Developed a **MERN publishing platform** featuring **hardened session authentication** with **httpOnly-cookie JWTs**, refresh-token rotation using **SHA-256** reuse detection, and per-device instant revocation.
- Engineered an outbound webhook system supporting **11 event types** with **HMAC-SHA256** signing, **SSRF/DNS-rebinding protection**, and a retry-with-backoff mechanism that includes auto-disable functionality.
- Implemented server-side **RBAC** across **3 workspace roles** featuring read-only write-blocking, a **90-day audit trail**, race-safe analytics through **atomic upserts**, and injection-safe search capabilities.

Technologies / Tools Used : MERN, JWT, Web Locks API

TransitOps — Fleet Operations Platform | 📧 Trex-ayush 📧

Jul 2026 - Present

- **Deployed a MERN fleet-management app** serverless on AWS — Express as a Lambda behind API Gateway, with one CloudFront origin serving the SPA and proxying /api/* from OAC-locked S3.
- **Provisioned the stack as infrastructure-as-code** using AWS SAM and built a GitHub Actions pipeline running sam deploy, S3 sync, and CloudFront invalidation.
- **Implemented warm-Lambda MongoDB connection pooling** across a **42-endpoint API** so warm invocations reuse an open connection instead of reconnecting per request.

Technologies / Tools Used : AWS, MongoDB

Skill Path — Course Marketplace | 📧 Trex-ayush 📧

Jan 2026 - Jun 2026

- **Built a multi-role course marketplace** spanning **148 REST endpoints** and **19 models**, with Stripe Checkout, signature-verified webhook enrollment, and PDFKit invoicing.
- **Implemented per-course AI key delegation** across OpenAI, Gemini, and Anthropic with AES-256-GCM encrypted key storage, per-student block controls, and read-only conversation auditing.
- **Secured the platform with JWT auth**, granular course-ownership middleware, Google OAuth 2.0 server-side code exchange, and admin impersonation for support.

Technologies / Tools Used : Stripe, OpenAI, Gemini, Anthropic

SKILLS

Databases :	MongoDB, Mongoose ODM, MySQL, PostgreSQL
Frameworks & Libraries :	Node.js, Express.js, Sails.js, React.js, Tailwind CSS, Zustand, Vite
Programming Languages :	C++, JavaScript, Java, SQL
Soft Skills :	Data Structures & Algorithms, OOP, MVC, Distributed Systems, Application Security
Tools & Platforms :	AWS, GitHub Actions, Git, Stripe, Razorpay, PayPal

EDUCATIONS

Vellore Institute of Technology
B.Tech in Computer Science and Engineering

- **CGPA: 8.6 / 10**

Aug 2022 - Mar 2026
CGPA : 8.6 / 10

AWARDS & ACHIEVEMENTS

- Ranked among the top coders on a campus of **15,000+** students, with **400+** problems solved on LeetCode.