

# Mayank Yadav

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## Summary

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Backend engineer with 1.5+ years of production experience designing and deploying scalable REST APIs, event-driven systems, and full-stack applications serving 100,000+ users. Proven track record of cutting data processing time by 30%, preserving 99% uptime on Linux VPS deployments, and collaborating across teams to ship reliable, high-coverage codebases. Extends into Web3 with hands-on experience in smart contract development, EIP-4337 account abstraction, and gasless protocol infrastructure in Go and Solidity.

## Experience

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Aug 2024 – Present

*System Analyst | Nov 2025 – Present*

*Indore, India*

*Associate System Analyst | Aug 2024 – Nov 2025*

- Developed core execution node logic for a blockchain simulator in Go, contributing to 40% of consensus node infrastructure and supporting a scalable test network processing **10,000+ simulated transactions/day**.
- Built and sustained off-chain relayer functionality in Go, achieving a **45% reduction** in cross-chain message delivery latency and improving reliability in high-throughput environments.
- Applied Ethereum Improvement Proposals (EIPs) including **EIP-4337** for smart account abstraction, with the feature validated across **1,500+ test deployments**.
- Upheld **85%+ unit test coverage** across Go modules by collaborating with the protocol team, improving codebase stability and reducing regression bugs in production builds.

### Young Indians

Nov 2022 – Mar 2024

*Full Stack Developer (Backend Focus)*

*Bhopal, India*

- Architected and deployed Yuva Portal's RESTful API with **20+ endpoints** using Node.js and Express.js, handling authentication, authorization, and data aggregation for **100,000+ active users**.
- Optimized dual-database integration (MongoDB + relational DB), cutting data processing time by **30%** through query refinement and indexing improvements for both new and existing user flows.
- Deployed the full-stack application on a **Linux VPS**, preserving **99% uptime** at [yuvaportal.youngindians.net](https://yuvaportal.youngindians.net) with environment configuration, reverse proxying, and process management via PM2.
- Constructed a unified platform merging React front-end with Node.js/Express.js back-end and MongoDB, delivering a user-centric interface with seamless API integration at scale.

## Projects

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**FiduWork – Freelance Work Management Platform** | *Node.js, Express.js, MongoDB, Solidity, JWT*

**Dec 2025**

- Engineered a **full backend system** for a hybrid Web2–Web3 freelance marketplace, delivering services for job posting, freelancer onboarding, proposal submission, and contract lifecycle management, all powered by Node.js and Express.js.
- Developed and deployed **Solidity-based escrow smart contracts** to handle milestone-based payment releases between clients and freelancers, eliminating the need for a trusted third-party intermediary.
- Established a **secure JWT authentication and role-based authorization** system supporting distinct client and freelancer user roles, with profile verification and onboarding flows backed by MongoDB.
- Built a **RESTful proposal and bidding API** enabling freelancers to submit, track, and manage proposals against active job listings, with automated contract creation on client acceptance.

**HyperPNL** | *Node.js, React.js, Solidity, ERC-4337, LayerZero, WebSocket, MongoDB* | [hyperpnl.com](https://hyperpnl.com)

**Aug 2025**

- Built a full-stack **ERC-4337 smart account interface** using React.js, enabling gasless transactions via Paymaster-sponsored UserOps with session-key management and batch transaction bundling.
- Engineered a **Node.js Paymaster and bundler backend** managing the full UserOperation lifecycle – gas estimation, nonce management, and signature validation – with configurable per-user sponsor policies.
- Exposed a **WebSocket channel** pushing real-time UserOp status (pending, bundled, reverted) to the React frontend, eliminating client-side polling entirely and improving real-time UX responsiveness.
- Incorporated **cross-chain bridge functionality** using LayerZero, building a Node.js relayer service tracking cross-chain message delivery and broadcasting live status updates to clients via WebSocket.

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## Projects

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### SocialFi – Gasless Tipping and Relayer Platform | *Go, Solidity, RabbitMQ, MongoDB, ZeroDev, Arbitrum* May 2025

- Planned and deployed a suite of Solidity smart contracts – **TipQueue, Treasury, BatchDistributor, and StakingContract** – on Arbitrum Sepolia, enabling an end-to-end **gasless tipping flow** for end users.
- Enforced **EIP-712 and Permit2** signature-based approval mechanisms; further integrated **EIP-4337 Account Abstraction** with a custom Paymaster and EntryPoint contract for full gas sponsorship on Arbitrum Sepolia.
- Built a production-grade **Go relayer backend** with RabbitMQ AMQP consumers, MongoDB state persistence, and IPFS/Pinata batch storage, architecting the complete flow: *Permit2 Sign -> RabbitMQ -> Relayer -> TipQueue.sol -> Solver -> Batch Execution*.
- Leveraged **ZeroDev SDK** to create Kernel Smart Accounts with ECDSA validators, session key delegation, and sponsored UserOps; published **sft-contracts** as a versioned private package with auto-generated ABI bindings via **abigen**.

### Udyam Uplift | *Node.js, React, MongoDB, Firebase, TailwindCSS* | [udyamuplift.in](https://udyamuplift.in) 2023 – 24

- Built a full-stack web platform for CAXpert incorporating **10+ front-end and back-end functionalities**, deployed and live at [udyamuplift.in](https://udyamuplift.in) serving real users.
- Enforced secure authentication using Firebase with **6-digit OTP verification**, hardening login security for production users.
- Delivered personalized personality analyses for **100+ real users** across 3 key assessment parameters via a data-driven back-end logic layer.

### WasteConnect | *Node.js, React, MongoDB, Firebase, TailwindCSS* 2022 – 23

- Developed a web portal connecting farmers and industries for efficient crop residue trade, achieving **80–90% operational efficiency** and recognised at **National Agro Hackathon 2023** among **200+ competing teams**.
- Incorporated **multilingual support covering 8 local languages** with 700+ translated keywords, significantly expanding platform accessibility across rural user segments.
- Constructed and shipped back-end data models in MongoDB to manage trade listings, user roles, and transaction records across a multi-stakeholder platform.

## Technical Skills

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**Languages:** Go, JavaScript, Solidity, Java, C++, C, SQL

**Backend Frameworks and APIs:** Node.js, Express.js, REST API Design, WebSockets, RabbitMQ, gRPC

**Databases:** MongoDB, PostgreSQL, Firebase Firestore

**Blockchain and Web3:** Solidity, Hardhat, Foundry, EIP-712, EIP-4337, Permit2, ZeroDev, LayerZero, Arbitrum

**DevOps and Tools:** Linux, VPS Deployment, PM2, Docker, Git, GitHub, Postman, IPFS

**Frontend:** React.js, TailwindCSS, HTML, CSS

**CS Fundamentals:** Data Structures and Algorithms, System Design, Object-Oriented Programming, Operating Systems, Computer Networks, DBMS

## Education

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### Lakshmi Narain College of Technology (LNCT), Bhopal

*Bachelor of Technology – Computer Science and Engineering | CGPA: 8.57*

2020 – 2024

*Bhopal, Madhya Pradesh*

## Achievements

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### Competitive Programming and Platform Ratings

- Solved **600+ problems on LeetCode** with a max contest rating of **1850**, demonstrating strong algorithmic problem-solving skills.
- Achieved **5-Star rating in C++** on HackerRank, ranking in the top percentile for language proficiency.

### Hackathons and Community Recognition

- Secured a **podium finish at National Agro Hackathon 2023** (WasteConnect) among **200+ competing teams** nationwide.
- Presented **SocialFi – Gasless Tipping and Relayer Platform** at **Yellow Network Hackathon 2025** (India Edition), hosted by BizThon at **IIT Delhi** (Sep 24–25, 2025), showcasing the gasless EIP-4337 relayer architecture built on Yellow SDK and Nitrolite state channel infrastructure.