Shubham Gupta

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Profile

Backend Software Engineer with 2+ years of experience designing and scaling distributed systems using Node.js and NestJS across SaaS, Fintech, and Web3 domains. Specialized in microservices architecture, event-driven pipelines, RESTful API development and cloud infrastructure on AWS. Proven track record delivering systems supporting 100k+ concurrent users and building secure financial platforms end-to-end.

Technical Skills

- **Languages:** TypeScript, JavaScript, SQL, Solidity
- **Backend & APIs:** Node.js, NestJS, Express.js, REST APIs, GraphQL, Microservices, API Gateway, WebSockets, React.js, Next.js
- **Databases & Caching:** PostgreSQL, MongoDB, Redis
- **Messaging & Events:** Apache Kafka, RabbitMQ, BullMQ, Event-Driven Architecture
- **Auth & Security:** JWT, OAuth2, RBAC, SSO, Multi-Tenant Access Control
- **Cloud & DevOps:** AWS (EC2, S3, RDS, Lambda, ALB/NLB, CloudFront), Docker, GitHub Actions, Jenkins, CI/CD, Linux, Git
- **AI & LLM Tools:** OpenAI API, LangChain, Retrieval-Augmented Generation (RAG), GitHub Copilot, Cursor AI

Experience

Simpplr *Aug 2025 – Dec 2025*
Software Engineer – Backend Gurugram

- Built and maintained backend microservices for identity and authorization modules using Node.js and NestJS, supporting enterprise SSO and multi-tenant access flows for a SaaS platform.
- Designed and enforced fine-grained RBAC policies across distributed services, hardening platform security and reducing unauthorized access incidents.
- Developed ETL pipelines to migrate large-scale enterprise data from Salesforce to AWS, handling schema transformation, data validation, and error recovery across millions of records.
- Resolved critical PostgreSQL performance bottlenecks through targeted indexing and query optimization, reducing average query latency by 40%.

NE Group *Jun 2024 – Jun 2025*
Software Development Engineer – Backend Hyderabad

- Rearchitected the API Gateway for a high-traffic gaming platform, improving scalability and reducing latency by 35%, enabling support for 100k+ concurrent users.
- Designed real-time event pipelines using Kafka and Redis, achieving sub-100ms game state updates and processing 10k+ events per second at peak load.
- Built a WebSocket-based communication layer for live multiplayer interactions and real-time score updates, reducing client polling overhead by 60%.
- Developed ERC-20 and ERC-1155 smart contracts for in-game asset management and on-chain betting logic using Solidity.
- Optimized PostgreSQL and MongoDB schemas through denormalization and compound indexing, improving write throughput by 25% and read latency by 30%.

Credain *Feb 2023 – Apr 2024*
Software Development Engineer – Backend Mumbai

- Architected the full backend from scratch for a Web3 banking platform, defining service boundaries, API contracts, and data models for a secure multi-chain financial product.
- Built wallet management, transaction processing, and multi-chain asset handling modules, enabling users to interact with multiple blockchains through a unified REST API.
- Implemented async transaction workflows using RabbitMQ, ensuring reliable, idempotent, and fully auditable processing of financial operations with zero data loss.
- Established CI/CD pipelines with automated smart contract testing via GitHub Actions, reducing deployment time by 50% and release risk.

Idea Usher *Jan 2022 – Dec 2022*
Blockchain Developer Intern Mohali

- Developed and audited Solidity smart contracts to ERC-20, ERC-721, and ERC-1155 standards for NFT marketplace and DeFi applications.
- Designed blockchain architecture for NFT marketplaces and cross-chain bridge solutions, focusing on gas optimization and contract security.

IIT Hyderabad *Jan 2022 – Jun 2022*
Blockchain Research Intern Hyderabad

- Researched parallel transaction scheduling in Hyperledger Sawtooth to improve throughput in permissioned blockchain networks.
- Benchmarked smart contracts using JavaScript and Docker to validate scheduling hypotheses, demonstrating measurable throughput improvements under concurrent workloads.

Projects

QueryLens – Natural Language Slow Query Explainer *Node.js, NestJS, OpenAI API, PostgreSQL, Docker*

- Built a schema-aware developer tool that accepts a slow PostgreSQL query and live schema context, then uses OpenAI to explain exactly why the query is slow in plain English — going beyond generic AI chat by grounding explanations in actual table structure, row estimates, and index availability.
- Integrated with PostgreSQL's `EXPLAIN ANALYZE` output to extract real execution plans, passing structured cost nodes as context to the LLM for precise, non-hallucinated diagnosis.
- Generates runnable index migration snippets and query rewrites tailored to the user's schema, with a before/after cost comparison derived from planner estimates.
- Exposed as a REST API and CLI tool, enabling integration into developer workflows and CI pipelines to catch slow queries before they reach production.
- *GitHub*

IdleWatch – Cloud Resource Waste Detector *Node.js, AWS SDK, PostgreSQL, React.js, Terraform, Docker*

- Built a developer-focused AWS cost intelligence tool that goes beyond stopped instances — identifying genuinely idle resources by analyzing CloudWatch utilization metrics over configurable time windows (CPU, invocation count, storage reads, network I/O).
- Designed a resource scoring engine that ranks waste by estimated monthly cost impact, surfacing RDS instances with sustained low CPU, cold Lambda functions, unattached EBS volumes, and S3 buckets with zero read activity.
- Implemented an AWS SDK polling service with scheduled metric aggregation persisted to PostgreSQL, enabling trend-based idle detection rather than point-in-time snapshots.
- Auto-generates Terraform snippets for right-sizing or terminating each flagged resource, reducing the manual effort from audit to remediation.
- *GitHub*

Education

Indian Institute of Information Technology, Sonepat *2019 – 2023*
B.Tech in Information Technology | CGPA: 7.9/10 Sonepat
Relevant Coursework: Data Structures & Algorithms, DBMS, Operating Systems, Computer Networks, Object-Oriented Programming