

HIMANSHU AASHISH

SYSTEMS ARCHITECT • FULL-STACK & DISTRIBUTED SYSTEMS ENGINEER

Bhubaneswar, Odisha, India • +91-9162869297 • himanshuaashish6@gmail.com • Remote Availability: Immediate

[LinkedIn](#) • [GitHub](#) • [Portfolio](#)

PROFESSIONAL SUMMARY

Production-tested **Systems Architect and Full-Stack Engineer** specializing in distributed event architectures, high-concurrency real-time engines, CRDT-based state synchronization, and scalable cloud infrastructure. Core expertise spanning **Next.js 15**, **TypeScript**, **Node.js**, **Redis (Lua scripts and Streams)**, **BullMQ**, **Socket.io clustering**, and **PostgreSQL 16**. Proven track record executing sub-millisecond atomic resolutions, eliminating SQL lock contention, minimizing query latency by 35%, and building mission-critical SaaS and gaming platforms.

TECHNICAL SKILLS

Distributed & Real-Time Systems: Atomic Redis Lua Scripts (EVALSHA), Conflict-Free Replicated Data Types (CRDTs / Yjs), Socket.io Clustering (@socket.io/redis-adapter), Redis 7 Streams (XADD/XREADGROUP), BullMQ Distributed Queues, WebSockets, Microservices

Full-Stack & Graphics Engineering: Next.js 15 (App Router), React.js, TypeScript, Node.js, Express.js, Three.js, Affine Matrix Math (Viewport Transforms), Ramer-Douglas-Peucker (RDP) Decimation, Bézier Smoothing, Tailwind CSS, REST/GraphQL

Databases & Storage Pipelines: PostgreSQL 16 (JSONB, GIN Indexing, Bytea Blobs), Redis 7 (Streams, Hashes, Pub/Sub, Sorted Sets), DynamoDB, MongoDB, Tiered Storage Architecture, Query Indexing and Caching

Cloud, DevOps & Security: Amazon Web Services (AWS: EC2, S3, RDS), Docker Containerization, Caddy Reverse Proxy (Auto SSL), CI/CD (GitHub Actions), Token-Bucket Rate Limiting, Linux, Cursor IDE, LangChain / Ollama

PROFESSIONAL EXPERIENCE

Elisium Space Pvt. Ltd.

2024 to Present

Full Stack and Systems Development Engineer

Remote

- Enterprise Platform Architecture:** Architected and shipped core microservices for an enterprise HRMS Attendance Portal (April 2026 live deployment), designing fault-tolerant telemetry pipelines and modular REST/GraphQL APIs.
- Database Optimization and Latency Reduction:** Structured relational schemas across PostgreSQL and MongoDB; implemented Redis caching and query indexing routines that minimized backend response latency by 35%.
- Production Support and High Reliability:** Led live issue triage and root-cause analysis (RCA) via server and query profiling, shipping zero-downtime hotfixes adhering to strict release protocols.
- Autonomous AI Tooling:** Integrated autonomous LLM verification harnesses and agentic pipelines using Python and LangChain, accelerating test coverage and code refactoring workflows.

TECHNICAL PROJECTS

PULSE: Real-Time Auction and Concurrency Bidding Engine • [\[LINK\]](#) [\[GITHUB\]](#)

Lead Distributed Systems Architect (High-Concurrency Platform)

Next.js 15, TypeScript, Socket.io, Redis Lua, BullMQ, Postgres 16, AWS

- Sub-Millisecond Atomic Lua Resolution:** Engineered an in-memory bidding resolution engine using atomic Redis Lua scripts (EVALSHA), arbitrating concurrent bids in < 1ms and eliminating race conditions, dirty reads, and SQL row lock contention.
- Dynamic Anti-Sniping Soft-Close:** Formulated an anti-sniping soft-close algorithm auto-extending auction timers by +60s when bids arrive within the final 30 seconds, neutralizing algorithmic sniper bots and preserving fair market discovery.
- Decoupled Asynchronous Settlement:** Offloaded post-auction processing to BullMQ delayed queues, executing atomic SQL transactions, generating SHA-256 audit hashes, and committing immutable financial records to PostgreSQL 16.
- Production AWS Infrastructure:** Deployed containerized microservices on AWS EC2 (Mumbai) fronted by Caddy reverse proxy with automated SSL, achieving < 2ms WebSocket round-trip times and zero-downtime routing.

MESH: Real-Time Collaborative Canvas Engine • [\[LINK\]](#) [\[GITHUB\]](#)

Full-Stack Systems and Graphics Engine Architect

Next.js 15, TypeScript, Yjs, Socket.io, Redis 7, Postgres 16, Docker

- Conflict-Free CRDT Synchronization:** Deployed Yjs binary delta updates with decoupled local Y.UndoManager scopes across concurrent clients, ensuring deterministic state convergence without centralized database locks or merge conflicts.
- 60Hz Ingestion Throttling and Clustering:** Built a 60Hz (~16.6ms) requestAnimationFrame micro-ticker with sub-0.25px Euclidean drift suppression, eliminating WebSocket packet storms while scaling multi-node broadcasting via @socket.io/redis-adapter.
- Tiered Storage and Compaction Pipeline:** Buffered live mutations into Redis Streams (XADD) and compiled headless Y.Doc binary snapshots and JSONB element trees into PostgreSQL 16 via an async consumer group (XREADGROUP) worker.
- Computational Geometry and 60 FPS Vector Inking:** Engineered pure Affine transformation matrices (Screen-to-World focal zoom) paired with RDP decimation and quadratic Bézier curve smoothing for smooth freehand drawing on an infinite canvas.

COBRA: Real-Time Multiplayer Strategy Card Engine • [\[LINK\]](#)

Lead Systems and Backend Architect (Elisium Space Core Platform)

Node.js, AWS, TypeScript, Python, Socket.io, Docker

- Multiplayer Engine Architecture:** Architected a 6-deck real-time multiplayer card engine on AWS, designing event-driven WebSocket synchronization and automated server-authoritative state arbitration.
- State Validation and Anti-Tamper:** Implemented strict server-side validation and transactional workflows to eliminate race conditions, socket desynchronization, and client tampering across live player sessions.

EDUCATION

Rustam Ji Institute of Technology (RJIT), BSF Academy

2021 to 2025

Bachelor of Technology (B.Tech) in Electronics and Communication Engineering

Gwalior, MP

Shree Krishna International School

2019 to 2021

All India Senior School Certificate Examination (Class XII, Intermediate)

Bhubaneswar, Odisha