

TUSHAR CHHIPEKAR

☎ +91-6264909980 ✉ tusharchhipek21@gmail.com 🔗 [linkedin.com/in/tusharchhipek21](https://www.linkedin.com/in/tusharchhipek21) 🐙 github.com/Tusharchhipek21
🌐 itiswhatitistush.in

Summary

Full-stack developer specializing in TypeScript across the MERN stack, with hands-on experience shipping production-grade DevOps infrastructure (Docker, Kubernetes, CI/CD) and integrating LLMs into real products. Built and deployed complex distributed systems end-to-end, from database schema to Kubernetes cluster, including a crypto derivatives exchange and an AI-powered documentation platform.

Projects

GitFlow | *TypeScript, Next.js, Node.js, Express, PostgreSQL, Prisma, LangChain, Docker, Kubernetes* **Code** | **Live**

- Built a service turning any public GitHub repo into a documentation site via a two-phase LLM pipeline that plans sections and pages, then generates Markdown with Mermaid diagrams.
- Cut hallucination by validating model output against ground truth — planned file paths are intersected with the real Git tree, not just schema-checked.
- Designed retrieval-free grounded chat: each page records its source files at a pinned commit SHA, removing the need for an embedding store.
- Ran indexing as an async background job with a status state machine and live client polling, plus provider rate limiting with exponential-backoff retry.

Hexfield Exchange | *TypeScript, Node.js, Express, Redis Streams, WebSockets, PostgreSQL, TimescaleDB, Kubernetes* **Code** | **Live**

- Built a perpetual-futures exchange on a single-threaded in-memory matching engine, consuming orders as commands from a Redis Stream for lock-free, deterministic price-time priority.
- Implemented cross-margin positions with funding, liquidation and auto-deleveraging in integer-only arithmetic; durability via state snapshots plus command-stream replay.
- Fanned each engine event to three independent consumers — REST reply, WebSocket push to a React trading UI, and durable Postgres writes — keeping the matching hot path off the database.
- Shipped six independently deployable services to Kubernetes with multi-stage Docker builds, TimescaleDB continuous aggregates for OHLCV candles, and GitHub Actions CI.

buildable | *TypeScript, React, Node.js, Express, Kubernetes, Docker, MongoDB, Redis, LangChain* **Code** | **Live**

- Built an AI website builder that provisions per-project Kubernetes sandboxes on demand — three-container pods (live preview, file/terminal agent, S3 sync) behind a scoped RBAC ServiceAccount.
- Implemented a LangChain coding agent whose tools call the sandbox's own file API, so AI edits hot-reload into a live preview with no deploy step.
- Engineered hostname-based reverse proxying with WebSocket upgrade support and JWT-plus-Redis ownership checks gating filesystem and terminal access.
- Made pods disposable by design: file changes stream to S3 and restore on boot, with Redis TTLs and keyspace-expiry events driving automatic sandbox teardown.

Skills

Languages & Frontend: TypeScript, JavaScript, React, Next.js, Tailwind CSS, shadcn, Redux, Zustand, TanStack Query, Zod

Backend: Python, Node.js, Bun, Express, WebSockets, Socket.IO, Fast APIs, REST APIs

Databases: PostgreSQL, Prisma, MongoDB, TimescaleDB, Redis, Kafka, RabbitMQ

Infrastructure & DevOps: Docker, Kubernetes, GitHub Actions, CI/CD, Nginx, Turborepo, AWS (EKS, EC2, ECR, S3, ASG), Vercel

AI: Claude API, LangChain, LangGraph, Vercel AI SDK, LLM Integration

Developer Tools: VS Code, Postman, Cursor, Antigravity, Claude CLI