

ANIRUDDHA PAYAS

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Objective

Full-Stack AI Engineer specializing in scalable web architectures, production-ready RAG systems, and deterministic LLM integrations. Driven by a deep interest in complex system design and continuous learning, my focus is on building resilient, high-performance software that solves hard infrastructure challenges.

TECHNICAL SKILLS

Languages & Core: TypeScript, JavaScript, SQL, Java

Frontend Architecture: React (Next.js), Tailwind CSS, Vite

Backend & Architecture: Node.js (Express), Redis, BullMQ, REST APIs, Serverless Functions

Applied AI Engineering: LangGraph, LangSmith, Groq, Agentic AI, RAG

Databases & DevOps: PostgreSQL (Neon, Supabase RLS), Docker, Vercel, Render, Git

PROJECTS

Aegis AI: Enterprise Support Copilot | *Next.js, Node.js, LangGraph, pgvector, Redis, BullMQ, Groq* Live | [GitHub](#)

- **Agentic Architecture:** Architected a real-time AI Support Copilot using Next.js and Node.js, leveraging a LangGraph-orchestrated Llama 3.3 agent to automate enterprise knowledge retrieval across dense internal documents.
- **Hybrid Retrieval:** Engineered a highly accurate RAG pipeline in PostgreSQL (pgvector), combining semantic vector search with keyword matching (websearch.to_tsquery) and Reciprocal Rank Fusion (RRF) to maximize precision.
- **Asynchronous Processing:** Designed a fault-tolerant background processing engine using Redis and BullMQ to asynchronously ingest massive PDFs, utilizing calculated text overlaps to completely prevent semantic data loss without blocking the main server thread.
- **Latency Optimization:** Eliminated LLM hallucinations via strict agentic guardrails for deterministic answering and established Server-Sent Events (SSE) for real-time token streaming to minimize perceived UI latency.

IssueTracker Pro | *Next.js, Supabase, PostgreSQL (pgvector), Hugging Face, Groq* [GitHub](#)

- **Real-Time Architecture:** Architected a collaborative project management platform utilizing Next.js App Router and Supabase Realtime, establishing persistent WebSocket subscriptions to synchronize Kanban state across clients with sub-50ms latency.
- **Vector Search Engine:** Engineered an automated ticket deduplication engine using PostgreSQL (pgvector) and custom RPCs, offloading 384-dimensional embedding generation to Hugging Face's Inference API to bypass Vercel serverless bundle limits.
- **AI Triage & RAG:** Developed an intelligent triage pipeline and enterprise RAG chatbot using Groq, dynamically analyzing incoming bug reports for deterministic auto-tagging and real-time operational synthesis.
- **Security & API Design:** Secured application data by enforcing strict PostgreSQL Row-Level Security (RLS) policies and utilizing Next.js Server Actions to execute isolated server-side mutations without exposing vulnerable REST endpoints.

Skill-Bridge: Hyperlocal Services Marketplace | *React Native, PostGIS, Supabase, Redux* [GitHub](#)

- **Mobile Architecture:** Engineered a cross-platform mobile marketplace using React Native (Expo) and Redux Toolkit, connecting users with verified local service providers within a 5km radius via OpenStreetMap integrations.
- **Auth Modernization:** Secured user access and multi-tenant session management by implementing a seamless Supabase Email OTP authentication flow, intentionally deprecating legacy SMS dependencies to eliminate external API latency and costs.
- **Geospatial Engine:** Designed a multi-sided PostgreSQL schema leveraging PostGIS spatial queries (ST_DWithin) for high-performance geolocation matchmaking, synchronized across client devices using Supabase Realtime channels.
- **FinTech & State Logic:** Architected a state-machine booking engine featuring a secure Doorstep PIN handshake for job verification, KYC image capture pipelines, and native UPI deep-linking for frictionless peer-to-peer payments.

EDUCATION

New Horizon Institute of Technology and Management

Bachelor of Engineering in Computer Engineering

AUGUST 2023 – JULY 2027

Thane, Maharashtra

New English Jr. College

Higher Secondary Certificate (HSC)

June 2021 – March 2023

Ulhasnagar, Maharashtra