

RISHIKESH SWAMINATHAN

Full Stack Developer | AI Integration Specialist

rishikeshswaminathan006@gmail.com | 6383604805 | Porur, Chennai | linkedin.com/in/rishikeshswaminathan-11b065210

PROFILE

Full Stack Developer with hands-on experience building production-grade AI-powered web applications, real-time systems, and voice AI pipelines. Proficient across the complete stack — React/Next.js frontend, Python/FastAPI backend, PostgreSQL/Redis databases, and Docker-based deployments on cloud infrastructure. Proven ability to architect and ship multi-module products end to end, from database schema to deployed UI.

TECHNICAL SKILLS

Frontend	React 19, Next.js 14/16, TypeScript, Vite, Tailwind CSS, Framer Motion, React Native (Expo)
Backend	FastAPI, Node.js, Python, REST APIs, WebSockets, async/event-driven architecture
Databases	PostgreSQL, Redis (Upstash), pgvector, SQLite, SQLAlchemy (async)
Cloud & DevOps	Docker, AWS S3, Azure (Blob, Pipelines), Vercel, Cloudflare R2, Celery
Voice / AI	Whisper STT, ElevenLabs TTS, Silero VAD, GPT-4, Gemini 2.0, LangGraph, LangChain, BERT NER, sentence-transformers
Auth & Payments	JWT, OTP flows, bcrypt, Razorpay (UPI/cards/netbanking)
Other	Solana SDK, CCXT, WebSocket real-time systems, multi-agent AI, multi-tenant SaaS

PROFESSIONAL EXPERIENCE

Nuvento Systems Pvt Ltd | Associate ML Engineer | May 2024 – Present

- **AIDE:** Led full-stack development of AIDE — a 6-agent AI document intelligence system using LangGraph, Gemini 2.0, BERT NER, FastAPI, PostgreSQL, and Redis, deployed via Docker.
- **VoiceAI Platform:** Built a voice-first AI therapy simulation platform with an end-to-end voice pipeline: client-side VAD (Silero) → Whisper STT → GPT-4 → ElevenLabs TTS, using Next.js frontend and FastAPI backend.
- **Postpilot:** Architected a social media automation platform (Postpilot) integrating Grok API, Twitter, and LinkedIn with async job scheduling (APScheduler), React frontend, and 15+ REST API endpoints.
- **Other:** Built and managed multi-agent AI pipelines, R&D for product features, and mentored delivery on client projects including a sports club management dashboard and an e-commerce platform.

Nuvento Systems Pvt Ltd | ML Engineer Intern | Feb 2024 – May 2024

- Worked on Docketry.ai document intelligence — extraction of structured data using ML and LLM techniques from templated and non-templated documents. Contributed to R&D for new product requirements.

KEY PROJECTS

AI Therapy Simulation Platform — Next.js, FastAPI, Whisper STT, ElevenLabs TTS, Silero VAD, GPT-4, PostgreSQL, Docker

- Built a voice-first platform for psychology students featuring real-time voice interaction: VAD → STT → LLM state-machine → TTS audio streaming. Stateful patient simulation across 6 session phases with 5 clinical scenarios.
- LLM-as-Judge evaluation framework scoring therapeutic sessions across 5 dimensions asynchronously, without blocking conversation flow. ~3,450 LOC, 39 backend files.

Knowledge Engine — React 19 + TypeScript + Vite, FastAPI, PostgreSQL + pgvector, Docker, sentence-transformers, local LLM (Llama 3.1 8B)

- Privacy-first semantic content aggregator with two-stage relevance scoring (vector pre-filter + local LLM), 14+ REST endpoints, background job scheduling, and <500ms feed query response times.

RunSync — Fitness Club Platform — *Next.js 14, React Native (Expo), FastAPI, PostgreSQL, Redis (Upstash), AWS S3, Razorpay, JWT/OTP*

- Full-stack multi-app system: FastAPI backend, React Native mobile app with deep linking and secure token storage, Next.js admin dashboard. Full auth flow with OTP, Razorpay payment integration, and role-based access.

Agentic Trader — Crypto Trading Bot — *React 19 + TypeScript, FastAPI, Docker, WebSockets, PostgreSQL, Redis*

- 63-module async Python system with real-time WebSocket orderbook processing, multi-factor signal engine, and a live React + Recharts dashboard. Sub-millisecond execution with uvloop and msgspec.

AIDE — Insurance Document Intelligence — *FastAPI, LangGraph, Gemini 2.0 Flash, BERT NER, PostgreSQL, Redis, Docker, Streamlit*

- 6-agent LangGraph orchestration system (Classifier → Party → Policy → Coverage → Risk → Quality agents) with structured JSON output, BERT NER + LLM hybrid extraction, and human-in-the-loop review workflow.

EDUCATION

Sri Ramachandra University | Bachelor of Technology | 2020 – Present

Maharishi International School | Higher Secondary School (XII) | 2017 – 2019

RESEARCH & PUBLICATIONS

- Published in Taylor & Francis Group (2023): Assessment of Arrhythmia.
- ICMR-funded research (Grant: INR 1.5 Crore) — Classification of Squamous Cell Carcinoma using Deep Learning and Computer Vision on histopathological images.