Vaibhav Kaul

Backend Engineer | Real-Time Systems, Serverless, AI Infrastructure

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Professional Summary

Backend Engineer with 2+ years owning production systems end-to-end at a B2B SaaS company. Built real-time AI voice infrastructure (WebSockets, VAD), serverless API platforms (AWS Lambda), and cross-platform e-commerce backends. Focused on reliability, cost efficiency, and shipping systems that directly protect revenue.

Skills

- **Backend Core**: Node.js, Python, TypeScript, Express, SQL (PostgreSQL)
- **APIs & Protocols**: REST, WebSockets (Socket.IO), GraphQL (familiar)
- **Databases**: PostgreSQL, PGVector, Amazon RDS, MongoDB (working knowledge)
- **Infra & Reliability**: AWS Lambda, S3, Docker, GitHub Actions CI/CD, Semantic Release
- **AI & Voice**: LangChain, GPT-4o, Gemini 2.0 Flash, ElevenLabs, STT/TTS Pipelines, VAD
- **Platforms**: Shopify App Framework, BigCommerce APIs, Twilio, Vonage
- **Spoken Languages**: English, Hindi, Gujarati

Work Experience

- **eDelta Corporation (formerly eDelta Enterprise)** — Surat, Gujarat
  Software Developer — *June 2024 – Present*

  - **VoiceNow AI Voice Platform & SDK**
    - Owned end-to-end a real-time AI voice platform serving production traffic. Chose WebSockets over polling for <200ms latency; designed the VAD → STT → LLM → TTS pipeline with graceful degradation when upstream APIs fail.
    - Designed, published, and maintained the **VoiceNow SDK** (NPM) with automated Semantic Release CI/CD. Reduced client integration time from days to hours.
    - Orchestrated organization-level auth (Logto) and implemented file ingestion pipelines (S3) with **PGVector** to generate embeddings for knowledge-base responses.
    - Integrated Twilio/Vonage for telephony with cost tracking per call. Built analytics dashboards to monitor token usage and API costs, enabling budget guardrails for clients.
  - **Omnichannel Engagement (XUnified) & Serverless Bots**
    - Engineered multi-channel communication APIs for WhatsApp, Facebook, Instagram, and Telegram, routing messages dynamically to Dialogflow or LLM bots.
    - Designed a **Serverless Voice Bot** architecture using AWS Lambda (Python) — chose Lambda over ECS for cost efficiency at low-to-medium traffic, with auto-scaling for spikes.
    - Developed WhatsApp Templates and a Live Chat system with cross-channel conversation history.
  - **E-commerce Protection Platforms (ProtectAllPlans)**
    - Designed and developed **ProtectAllPlans**, a cross-platform protection backend for Shopify, BigCommerce, and WordPress, enabling dynamic warranty injection.
    - Built CSV-based import pipelines for custom styling and warranty mapping, allowing merchants to map store products to protection plans dynamically.
    - Implemented Shopify Cart Transformer logic for dynamic pricing; developed BigCommerce APIs reducing bulk assignment time by 90%.
    - Created a WordPress plugin replicating the protection-plan workflow for WooCommerce stores.

- **eDelta Enterprise Solutions Pvt. Ltd.** — Ahmedabad, Gujarat
  Software Engineering Intern — *Dec 2023 – June 2024*

  - **No-Code AI Studio Platform**
    - Designed and developed the core backend architecture of a proprietary no-code AI chatbot builder from scratch.
    - Implemented a node-and-edge graph system enabling drag-and-drop flow creation with functional nodes (Send Message, Collect Input, Condition).
    - Established backend support for node execution and flow validation, forming the base of the platform's automation capabilities.

Projects

- **Society Management System**: Architected and owned backend for a society management ERP (Node.js, PostgreSQL). Implemented RBAC for 3 user tiers, handling financial data with audit logs.
- **Portfolio Website**: Designed a high-performance portfolio using modern front-end practices to showcase projects and technical expertise, integrated with continuous deployment.

Education

- **Dharmsinh Desai University** — Nadiad, Gujarat
  Bachelor of Technology in Computer Science Technology; CPI: 7.65 — *Passed in 2024*