Prabesh Sharma

Full-stack and backend software engineer

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I run Data Doodles Tech, where I design and build software for Nepali businesses: a jewellery ERP and billing system, B2B airline ticketing, and an online marketplace that takes Khalti, eSewa and Fonepay payments. Most of my work is backend and data: multi-tenant PostgreSQL, money that has to add up exactly, and tests that run against real databases. Outside client work I write systems software in Rust and Go, and small developer and security tools.

TECHNICAL SKILLS

Languages	TypeScript, Python, Rust, Go, SQL
Backend & data	Node.js (Express, NestJS), FastAPI, Prisma, SQLAlchemy & Alembic, PostgreSQL, Redis
Frontend	React, Next.js, Vite, Tailwind CSS
Infrastructure	Docker, Kubernetes, Vercel, Cloudflare Workers, Neon, GitHub Actions CI/CD
Practice	Multi-tenant isolation (schema-per-tenant, row-level security), payment integration (Khalti, eSewa, Fonepay), double-entry ledgers, end-to-end and property/fuzz testing

EXPERIENCE

CEO, Data Doodles Tech

2024–present · Nepal

I design and build the company's products. The code is private; each product has a case study on hellpuff.dev.

Kinamna · Deployed — hellpuff.dev/work/kinamna

Multi-vendor marketplace with a storefront, seller portal and admin console on one API

- 183-endpoint API in production on Kubernetes with Neon PostgreSQL.
- Khalti, eSewa and Fonepay payments are verified on the server: amounts are recomputed from stored line items, the gateway lookup decides the status, and a state machine settles each order once.
- Moved the backend from Express and Prisma to FastAPI and SQLAlchemy without changing the schema, URLs, JSON or tokens. 126 tests run against a real PostgreSQL schema.

DataJewellers · Sita Shree Gold System · Commercial · deployed — hellpuff.dev/work/datajewellers

Jewellery ERP and billing (multi-tenant SaaS), and the first shop running it in production

- One deployment serves many businesses, each in its own PostgreSQL schema, and a dedicated test suite checks that tenants can't see each other's data.
- Prices by weight, purity, making charge and wastage, using exact decimal arithmetic. Supports the Nepali fiscal calendar and PAN/VAT, and maps the tax authority's e-billing rules in a compliance matrix. It is not IRD certified.
- Corrections need a second person to approve them, enforced in the database. Each invoice keeps the metal rate it was sold at.

TimeTravel · Commercial — hellpuff.dev/work/timetravel

B2B airline ticketing platform for travel agencies

- A fare is held with a timed lock on a partial unique index, so it can't be sold twice.
- Booking and wallet debit happen in one transaction, as do cancellation and refund. Agencies get credit lines, and top-ups need admin approval.
- Flight suppliers sit behind one interface; Amadeus is implemented, the others are scaffolds. The whole stack runs with Docker Compose.

DataUdaan · In development — hellpuff.dev/work/dataudaan

Travel booking for travellers and agencies: flights, hotels and buses behind one supplier layer

- Each fare stores a breakdown of every pricing step, so a markup or currency conversion can be explained later.
- 92 backend tests, including end-to-end booking, refund and reissue flows. CI checks types, runs Bandit, migrates the database up, down and up again, and scans the Docker images with Trivy before deploying.

Geoland System · Deployed — hellpuff.dev/work/geoland

Ticketing, supplier and finance system for a travel business

- Supplier balances are calculated from tickets on every read and kept per currency, so they can't drift.
- Playwright tests drive the real UI against a real backend. The database is backed up and encrypted nightly.

Also in progress: DataRestro (restaurant POS), DataItemize (inventory), Data Accommodation (hotels), DataAttendance (attendance and scheduling), DataConstruct (manufacturing) and MultiPaisa (multi-currency accounting).

OPEN SOURCE

eBPF-KernelTrace-MCP · Experimental — github.com/hellpuffyt/eBPF-KernelTrace-MCP

Read-only Linux process and file activity for AI assistants, over MCP (Rust, Aya)

- I traced an intermittent test failure to a kernel backport that only ran the tracepoint on CPU 0. Switching to a raw tracepoint took the per-CPU test from 0 of 55 passes to 30 of 30.

TesseraDB · Research — github.com/hellpuffyt/tesseradb

Embedded SQL database that keeps every row version and can query the past with AS OF (Rust, no dependencies)

- Each write-ahead log frame has a CRC, and recovery stops at the first damaged frame. Tested with recovery, concurrency and fuzz suites.

Bellows · Research — github.com/hellpuffyt/bellows-compiler

A small optimizing compiler that emits x86-64 machine code (Rust)

- Every example runs in the IR interpreter and as native code at -O0 and -O1, and all four outputs must match.

Halyard · Spindrift · Research — github.com/hellpuffyt/halyard-vm

A deterministic sandbox VM with gas metering (Rust), and an HTTP/1.1 server written from the RFC (Go)

- A VM resumed from a snapshot ends in the same state as one that never stopped. The server reloads its config without dropping requests.

ArchitectFlow · Experimental — github.com/hellpuffyt/ArchitectFlow

A workspace for designing a system and generating an implementation prompt from it (Next.js, FastAPI, PostgreSQL)

- Architecture, data model, API and UI live in one validated, versioned document, and AI suggestions arrive as a diff to review. 172 API, 48 unit and 20 end-to-end tests.

69 public repositories with CI. Others include Statuscraft (status pages built from real checks), ModelHarbor (LLM routing and cost tracking), PacketLens (packet inspection), RepoGraph (dependency maps), Titan-HFT, ChaosProxy-L7 and Deterministic-TimeMachine.

EDUCATION

B.Tech, Computer Science and Engineering — Graduated