

Sarbagya Gho Shrestha

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Engineer who builds with intent. Drawn to technology that connects people to services, automates the meaningful, and scales what matters, whether that's governance infrastructure serving thousands of citizens or a startup's first intelligent system. Comfortable at any layer of the stack, from embedded hardware to distributed systems. Always learning, always shipping.

WORK EXPERIENCE (3.5+ YEARS)

Intensive Study and Research Center (ISRC), *later* Ninja Infosys

Jan 2024 – Feb 2026

Full Stack Engineer & DevOps Lead | Kathmandu, Nepal

- Deployed digital profile systems for 10+ municipalities including Pokhara Metropolitan City in 4 months with a 2-person team, serving 100,000+ citizens.
- Built a Survey Management System with custom ODK Fetcher, processing 100,000+ survey responses with real-time analytics and live monitoring.
- Managed end-to-end DevOps pipelines (CI/CD, Docker, AWS EC2/S3, MinIO, Jenkins) ensuring 99.9% uptime for resource-constrained regions.
- Trained 300+ local officials and enumerators in digital tools for sustainable civic digitization.
- Tech: Next.js, NestJS, tRPC, PostgreSQL, MongoDB, Docker, AWS, MinIO, ODK Collect/Central, Nginx

Ninja Infosys · Feb 2025 – Feb 2026

Tech Lead | Kathmandu, Nepal

- Lead technical architecture for Digital e-Palika platform serving 50+ municipalities, streamlining citizen services, revenue collection, and grievance handling.
- Architected the Integrated Content Management System (ICMS) powering 100+ government websites nationwide on a distributed, event-driven microservices architecture built for high availability.
- Coordinated cross-functional teams and stakeholders to deliver governance solutions while maintaining system scalability, resilience, and security across containerised deployments.
- Tech: Next.js, NestJS, Kafka, Kubernetes, PostgreSQL, Docker, Redis, CI/CD

Mandala Foods — AI & Automation Consultant

2025 – Present

Fruit upcycling startup · Remote, Nepal

- Sole technical architect for AI and automation infrastructure; designed and deployed **Maya** — an internal RAG-based knowledge chatbot enabling staff to query SOPs and operational documentation through natural language.
- Architected **Maya Genie**, a multi-channel conversational commerce platform (WhatsApp, Viber, Messenger) with a Go-based message orchestration gateway, LangChain RAG cognitive core, structured function calling, and Nepal payment gateway integrations (Khalti, eSewa) — submitted to the *AI by HER: Global Impact Challenge*.
- Built a public-facing product chatbot on a loosely coupled microservices architecture keeping channels, orchestration, and cognitive core independently deployable.
- Engineered a Go document sync service processing Vikunja task attachments (XLSX, CSV, DOCX), normalising and auto-uploading to Google Drive to feed the n8n RAG embedding pipeline.

- Self-hosted and maintained a production VPS (Ubuntu 24.04, 12-core AMD EPYC, 48 GB RAM) running 10+ Dockerised services — n8n in queue mode, Supabase (pgvector), Traefik, Open WebUI, and a Claude API proxy.
- Built n8n automation workflows for document ingestion, Gemini-powered embedding pipelines, operational reporting, and industry news digests.
- Tech: Go, Python, LangChain, n8n, Docker, Traefik, PostgreSQL, Supabase (pgvector), Google Gemini Embeddings, Anthropic Claude API, Redis, Open WebUI, RAG Architecture, Microservices

Ibtidaa Softwares Pvt. Ltd.

Oct 2022 – Nov 2023

Full Stack Developer & Tech Lead | Nepal (Hybrid)

- Developed the "Bidesh" App/Website using Next.js for RP Srijan Way To Success.
- Built an Event Management and Visualization Tool using Django and JavaScript for Shramik Sanjal with Chart.js integration.
- Tech: Next.js, NestJS, PostgreSQL, MongoDB, Django REST Framework, Redux.js, Jenkins

PointZeroo

Jan 2022 – Sep 2022

Frontend Developer | Nepal (Hybrid)

- Maintained an e-commerce website and developed a web application for SSoChe, Pulchowk Campus.
- Tech: JavaScript, React, MongoDB, Node.js, HTML5, CSS

LEADERSHIP

IEEE Pulchowk Student Branch

Apr 2023 – Jun 2024

Chair & Creative Director | Lalitpur, Nepal

- Led the IEEE Pulchowk Student Branch as Chair, organizing technical events, workshops, and coordinating student activities.
- Managed visual communications and promotional content for the branch as Creative Director.

KEY PROJECTS

8-bit Breadboard Computer (Ben Eater Inspired)

Jan 2024 – May 2024

6th Semester Minor Project, IOE Pulchowk Campus

- Built a complete 8-bit computer from scratch using discrete logic ICs with a team (Rohit Joshi, Yugal Pariyar).
- Created a custom 128-bit RAM module due to IC unavailability, demonstrating adaptability and problem-solving.
- Implemented full architecture: ALU, control unit, registers, program counter, instruction decoder, clock module.
- Presentation: [8-bit Breadboard Computer with Custom RAM](#)

Nepali Text To Speech

2024

Deep Learning Project

8th Semester Major Project, IOE Pulchowk Campus

- Developed a Nepali language text-to-speech platform using Tacotron, synthesizing natural-sounding speech to improve accessibility for Nepali-speaking audiences.

Digital Profile Platforms

2025

Municipal Data Infrastructure | pokhara.digprofile.com

- Built comprehensive digital profile systems for 10+ municipalities including Pokhara Metropolitan City, enabling data-driven governance for 100,000+ citizens.

Survey Management System

2024

Data Collection Platform | kerabari-admin.vercel.app

- Engineered a survey platform with custom ODK Fetcher, processing 100,000+ responses with real-time analytics and live field monitoring.

ICMS Platform

2025

Government CMS | fansep.moald.gov.np

- Architected the Integrated Content Management System powering 100+ government websites nationwide using microservices with Kafka and Kubernetes.

EDUCATION

Tribhuvan University, IOE, Pulchowk Campus

May 2021 – May 2026

B.E. in Electronics, Communication and Information Engineering

GPA: 3.37/4 (74.64%)

SOS Hermann Gmeiner School

2019 – 2021

+2 Science (Physics and Mathematics)

Grade: A+

SOS Hermann Gmeiner School

2019

SEE

Grade: A+

TECHNICAL SKILLS

Languages: TypeScript/JavaScript, Python, C/C++, Go, SQL, Shell Scripting

Frontend: Next.js, React.js, Redux.js, Module Federation, Tailwind CSS

Backend: NestJS, Express.js, tRPC, gRPC, Django, Node.js, Microservices

Databases: PostgreSQL, MongoDB, Redis

DevOps & Cloud: Docker, Kubernetes, Kafka, Jenkins, AWS (EC2, S3, Lambda), CI/CD, Nginx

Other: ODK Collect/Central, Embedded Systems, Digital Logic, Machine Learning, UAVs

HIGHLIGHTS

- 100+ government websites powered by the ICMS platform
- 50+ municipalities digitized through Digital e-Palika
- 10+ municipal digital profiles deployed in 4 months with a 2-person team
- 100,000+ citizen records processed and 300+ officials trained
- Custom 128-bit RAM built for 8-bit breadboard computer project
- 100K+ views as a music artist on Instagram