

Bigya Tuladhar

Senior Full-Stack & Cloud Engineer · 8+ yrs · AWS Serverless & IaC · RAG & Agentic Workflows · Real-Time Telemetry

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EXPERIENCE

Senior Full-Stack & Cloud Engineer / Tech Lead

Nova Dynamic Media

Feb 2022 – Present

Hong Kong (Remote)

Engaged via Swivt Technologies through Dec 2024; joined Nova full-time Jan 2025.

- Built a production **RAG platform on AWS Bedrock** — vector **knowledge base** (S3 Vectors + Titan embeddings, hierarchical chunking, semantic search) with grounded Nova/Claude prompting — powering a live moderator copilot plus live and post-event **AI assistants** and LLM-driven **livestream summarization**, answering audience questions with source-backed accuracy across **50+ events**.
- Engineered **cross-region Bedrock inference failover** with exponential backoff, combining two regions' token quotas to cut throttling failures **~68%** under burst load and keep the live copilot responsive at peak.
- Designed an **agentic workflow** for natural-language event-metrics queries (LLM generates Athena/DynamoDB queries, a validator LLM drives a refine-retry loop, a reasoning model produces insights), with guardrails via read-only IAM and tenant-scoped filters, plus an AI reporting pipeline on **Step Functions** with grounded insight generation and deterministic fallback.
- Re-architected real-time interaction on **AWS AppSync + GraphQL subscriptions + DynamoDB** (Q&A, upvoting, attendee replies, teleprompter, polls, surveys, quizzes, synced slideshows), migrating off AWS IoT Core to serve 50+ events.
- Delivered ultra-low-latency streaming via **Amazon IVS** over WebRTC with real-time transcription and translation, HLS transcoding via **MediaConvert** (1,000+ videos), and **KMS** encryption at rest; built the **Mission Control** dashboard in React/TypeScript.
- Shifted the platform toward **serverless architecture**, defining infrastructure as code with **AWS CDK** and the **Serverless Framework**; built a telemetry pipeline (**Kinesis Firehose → S3, Redis/Valkey, Glue + Athena**) and migrated CI/CD from Jenkins to **AWS CodeBuild** with multi-account cross-region STS deployments, cutting AWS spend **~40%**.

Senior Full-Stack Developer / Team Lead

Bitsky

2024

Remote

- Integrated third-party game provider APIs with **Node.js** (session management, webhook callbacks, real-time balance updates) and built a secure **Stripe** payment and wallet system for deposits, payouts, and reconciliation.

Senior Full-Stack Developer / Web Team Lead

Swivt Technologies

Jan 2022 – Dec 2024

Lalitpur, Nepal

Agency role; primary engagement was leading the Nova platform (above).

- Led 5–8 developers as team lead in an **Agile** environment, coordinating sprints and delivery with the project manager across 5+ projects; built a custom **CMS** serving multiple client sites.
- Built e-commerce platforms with **payment integration** and a booking system using **Stripe** and **Google Calendar**.
- Set up and managed hosting for all client projects on **GoDaddy** servers with **Cloudflare** for DNS routing and CDN.

Full-Stack Developer

Upaya

Jun 2018 – Jan 2022

Kathmandu, Nepal

- Business Solutions:** created an accounting and CRM system with role-based access and audit trails, a fast frontend search over **1M+ records**, automated daily, weekly, and monthly reporting (**saved 15+ hrs/week**), and 5 hybrid mobile apps with **Cordova**.
- Logistics:** built an end-to-end delivery platform with live **GPS tracking** plus historical GPS route data (**+40% on-time delivery**) and a dynamic pricing algorithm based on route, vehicle type, and traffic.

TECHNICAL SKILLS

Languages & Frameworks: TypeScript, JavaScript, Python, Node.js, PHP · React.js, Next.js, Vue.js, Tailwind, Flutter

AWS & Cloud: AppSync, Step Functions, Lambda, Kinesis, Glue, Athena, S3, DynamoDB, EC2, CloudFront, IAM/STS, IVS, MediaConvert, KMS, Bedrock · AWS CDK, Serverless Framework, CloudFormation (IaC)

AI: RAG systems, knowledge bases & vector databases, semantic search, embeddings, agentic workflows, grounding & guardrails, cross-region inference failover, LLM integration (Claude, Amazon Nova), AWS Bedrock

Data, DevOps & API: PostgreSQL, MongoDB, MySQL, Redis/Valkey · CodeBuild, Jenkins, CI/CD, Docker · GraphQL, REST, Cognito, multi-tier auth

SELECTED PROJECTS

Nova Dynamic Media (novaweb.live) · **Aitken Vanson** (aitkenvanson.com) · **Upaya Logistics** (upaya.com.np) · **Upaya Business Solutions** (ubs.com.np) · **Crystal Academy** (crystalacademy.org) · **Bitsky** (bitsky.bet)

EDUCATION

Bachelor's Degree in Information Management · Tribhuvan University

2014 – 2018