

ABHIYAN POUDEL

Hattiesburg, MS

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Education

University of Southern Mississippi

Bachelor of Science in Computer Science (GPA: 3.95)

Expected Graduation: Dec. 2027

Hattiesburg, MS

Experience

Institute for Advanced Analytics and Security (IAAS), University of Southern Mississippi May 2025 – Present

Hattiesburg, MS

Team Lead, EDT (Enterprise Data Toolkit)

Jun. 2026 – Present

- Architected an **agentic research platform** that turns a question about a federal data product into a cited impact report: a **Go orchestrator** that provisions an isolated cloud sandbox per job, an agent runtime that fans out across **multiple LLM providers**, and **MCP** tool servers for academic and catalog search, deployed on **GCP Cloud Run** with Terraform.
- Designed the **concurrency model** that lets research runs execute in parallel: per-job sandbox isolation, automatic quarantine of failing workers, and zero-interruption deploys while runs are in flight, scaling the platform from a single-user demo to **10 concurrent users**.
- Built the **evaluation system** that scores every generated report: a versioned scoring engine that penalizes unsupported claims, verifies citations against their sources, and benchmarks output quality against **Perplexity and Gemini (88–100%** citation-support rate).
- Hardened the path to production with **branch protection and change-scoped CI**, a cost and infrastructure-drift audit across GCP Cloud Run, MongoDB, and Terraform, and access cleanup of the live database.

Research Assistant / Software Developer, AquaView

May 2025 – Jun. 2026

- Engineered and deployed the production **AquaView MCP Server** (FastMCP/Python) on Google Cloud Run for a federally funded NOAA project, enabling AI agents to query **19M+ oceanographic datasets** via the Model Context Protocol.
- Developed the **World Ocean Database (WOD) Chatbot**: Python data pipelines ingesting **200 years** of ocean observations and an LLM-powered natural-language query interface over multi-dimensional scientific datasets.
- Maintained CI/CD via **Google Cloud Build** and GitHub Actions for **4 services** across staging and production on GCP.

Codniv Innovations Pvt. Ltd.

May 2024 – Aug. 2024

Full Stack Developer

Nepal (Remote)

- Built and shipped **StupaPM**, a production property management platform (rent payments, maintenance tracking, tenant messaging) serving real users, backed by **MongoDB** and Python REST APIs.
- Built **5+ full stack websites** for clients across Nepal, owning React/Next.js frontends, REST APIs, and deployment.

Reinstalling Hope [501(c)(3) Non-Profit]

Aug. 2023 – Jan. 2025

Head of Website, Content, and Design

Ohio, United States

- Designed and launched the organization's website; delivered **10+ campaign proposals**, social media assets, and an e-book for the Save the Heritage initiative.

Projects

Elora Voice (Freelance) | Gemini Live, Telnyx, Node.js, Next.js, Expo, Postgres, Stripe

2026

- Founding engineer on a **multi-tenant AI voice receptionist** for **15 small-business clients** (restaurants, HVAC) in Katy, TX: Telnyx media streams into **Gemini Live** with tool-calling for bookings, orders, and messages; owner web dashboard, Expo mobile app, SMS summaries, Stripe billing.

ScoutDeck | TypeScript, Next.js, Aurinko, Recall AI, Neon DB

2025

- Customer discovery tool built for the **CEOs at AquaView** with a **6-stage automated pipeline** (hypothesis tracking, outreach threads, session logging) integrating Aurinko email sync, Recall AI meeting bot, and Google Cloud APIs.

Realtor Lead Generation Pipeline | Google Veo, LangChain, Google Calendar API, Hackathon

2025

- End-to-end AI pipeline** for Houston realtors: property data to listing videos with **Google Veo**, social replies and DMs handled by a **LangChain** agent, viewings booked via Google Calendar with zero manual intervention.

Care4Care (Freelance) | Next.js, Supabase, Multimodal AI, Tailwind CSS

2025

- Health platform where users upload medical reports and receive **AI-generated patient-friendly summaries** via multimodal AI, with an interactive follow-up chat over report history.

Technical Skills

Languages: Python, JavaScript/TypeScript (ES6+), Go, C++, SQL, HTML/CSS

Frameworks & Tools: React.js, Next.js, React Native/Expo, Node.js, Express.js, FastMCP, Litestar, LangChain, REST APIs

Cloud & DevOps: Google Cloud Run, Cloud Build, GitHub Actions, Terraform, Daytona, AWS, Vercel, Railway

Databases: PostgreSQL, MongoDB, Supabase, Neon, Elasticsearch, Redis, Arraylake (Zarr/Xarray)

Other: Model Context Protocol (MCP), LLM evaluation & benchmarking, STAC, PyTorch, Pydantic, Drizzle ORM, Figma

Authorized to work in the United States on Curricular Practical Training (CPT)