

SAPHAL K. POUDYAL

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SKILLS

- **Languages & Frameworks:** C#, C++, JavaScript, Python, Go, .NET MVC, FastAPI, Unity, Next.js, LangChain, React
- **DevOps + Cloud:** AWS (ECS, ECR, Fargate, S3, ALB), Terraform, Docker, Jenkins,, Github Actions
- **DB + BaaS:** PostgreSQL, MongoDB, Supabase, Firebase

EXPERIENCE

Founding Engineer

MagnoliaEd LLC

Jun 2025 - Present

Remote

- Drove end-to-end product development, leading to a \$50,000 seed funding raise from CoBuilders Cohort powered by **Microsoft**.
- Architected and provisioned a resilient cloud infrastructure on AWS, analyzing cost trade-offs between managed and self-managed services to reduce operational expenses by over 60% for early-stage development.
- Engineered a scalable FastAPI-based modular backend, balancing future scalability with early-stage resource constraints.
- Built a multi-app Turborepo + Next.js infrastructure, enabling shared design/logic and cutting deployment times by 50% from cached builds.
- Designed API contracts and database schema for the application infra integrating with the modular backend and a unified database.

.NET & Machine Learning Intern

Prediction3D Technologies

May 2025 - Aug 2025

Part-time / Remote

- Implemented hybrid OAuth2 authentication system using FedCM with standard PKCE fallback, integrating Supabase identity provider with .NET API for cross-browser compatibility and optimal UX.
- Refactored backend for hybrid billing system, integrating Stripe APIs to support flexible subscription-based and manual contract-based enterprise plans.
- Architected graph-based LLM orchestration system with LangGraph/LangChain, implementing multi-agent workflow(supervisor architecture) and RAG capabilities for the customer support platform.
- Implemented stateful conversation management with database checkpointing, enabling context-aware multi-turn interactions while maintaining conversation history across sessions.

Undergraduate Research Assistant

The University of Southern Mississippi

Nov 2024 - Present

Part-time / Remote

- Developing a research-based interactive gaming environment in Unity Engine using tools such as Blender, Adobe Substance Painter, and Materialize.
- Working with AR/VR development to increase interactivity in existing training programs.
- Automated annotation of 300+ 4K drone-captured aerial images for a 3D semantic segmentation model, reducing time-per-image from 120 minutes to 20 minutes.
- Conducted literature review comparing inference performance across different lighting conditions for the same image flight path.

Full-stack Django Developer Intern

Sipalaya Infotech Pvt. Ltd.

Jul 2024 - Oct 2024

- Developed, end-to-end, the CRM service for Beni Communications' administrator web application using Django with PostgreSQL and React.js (Redux, Zustand) along with Postman for API testing.
- Contributed to the translation of PHP-based REST APIs into scalable Django implementations.
- Reformed the previous billing system with keyboard shortcuts and macros, increasing user experience by 30%.
- Maintained Continuous Integration (CI) through GitHub Actions and Django Tests, with project management via Jira.

EDUCATION

Bachelor's in Computer and Information Sciences

The University of Southern Mississippi

May 2028

Hattiesburg, MS, USA

- Head of Artificial Intelligence at Google Developer Groups Chapter USM

PROJECTS

- [Deepseek-go](#) — A Go client built around the newly released Deepseek LLM with almost **300 stars** on GitHub.
- [Melo spaces](#) — An interactive virtual space for remote teams to connect, work, discuss and schedule meetings powered by React, Three.js and WebRTC. A clone of Welo Virtual Spaces using native peer-to-peer connections through Node.js and web sockets through [Partykit](#).
- [Cohesion](#) — An AI-powered flow-based SQL assistant that powers SQL generation from a natural language prompt using LLMs. Developed with features such as docs generations, mock data generation and generation of ORM code such as Django or Prisma.