SAPHAL K. POUDYAL

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GitHub | LinkedIn | saphal.me

SKILLS

- **Languages:** C# with .NET 9 MVC & Unity, C++ with GTest, Go with , JS, Python, Dart
- **Tools:** SQL(PostgreSQL), NPM, MongoDB, GitHub, GitHub Actions, Jenkins, Postman, Unity, Gulp

EXPERIENCE

.NET Core & Machine Learning Intern   **May 2025 - Present**
Prediction3D Technologies   *Part-time / Remote*
- Architected graph-based LLM orchestration system with LangGraph/LangChain, implementing multi-agent workflow(supervisor architecture) and RAG capabilities for the customer support platform.
- Implemented hybrid OAuth2 authentication system using FedCM with PKCE fallback, integrating Supabase identity provider with .NET API for cross-browser compatibility and optimal UX.
- Implemented stateful conversation management with database checkpointing, enabling context-aware multi-turn interactions while maintaining conversation history across sessions.

Undergraduate Research Assistant   **Nov 2024 - Present**
The University of Southern Mississippi   *Part-time / Remote*
- Developing a research-based interactive gaming environment in Unity Engine using tools such as Blender, Adobe Substance Painter, Materialize and so on.
- Working with AR/VR development for increased interactiveness in existing training programs.
- Created an AI-powered automated dev-log workflow between myself and supervisors in Google workspaces with Google Apps Script(GAS) reducing time required on reviewing by 17% (~7 minutes).
- Automated annotations of 300+ 4K drone-captured aerial images for 3D semantic segmentation model
- Assisted with literature review and finalizing paper on comparisons of inference performance within different lighting conditions for the same location and flight path.

Full-stack Django Developer Intern   **Oct 2024 - July 2024**
Sipalaya Infotech Pvt. Ltd.
- Developed, end-to-end, the CRM service for the Internet service company Beni communications's administrator web application using Django with PostgreSQL and React.js with Redux and Zustand along with Postman for testing APIs.
- Contributed in 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%.
- Re-documented 99% of the views and service functions using PyDoc.
- Maintained Continuous Integration (CI) through GitHub Actions and Django Tests and communication through Jira.

EDUCATION

Bachelor's in Computer and Information Sciences   **May 2028**
The University of Southern Mississippi   *Hattiesburg, MS, USA*
- Undergraduate Research Assistant at the School of Construction and Design
- Student Researcher under the School of Computing

PROJECTS

Melo spaces   **Dec. 12 - Present**
- An interactive virtual space for remote teams to work, and connect 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   **Nov 10 - Nov. 16**
- An AI-powered flow-based SQL assistant that powers SQL generation from a natural language prompt using LLMs
- Developed on Next.js powered by OpenAI's GPT-4 and hosted on Vercel with features such as docs generations, mock data generation and generation of ORM code such as Django or Prisma.

Deepseek-go   **Jan 2025 - Present**
- A Go client built around the newly released Deepseek LLM.