

Shulabh Bhattarai

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TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript, SQL

Backend: FastAPI, Node.js, Express, Django REST Framework, SQLAlchemy

AI Systems: RAG, OpenAI API, embeddings, hybrid retrieval, Ollama

Databases & Caching: PostgreSQL, MongoDB, SQLite, Redis, Supabase

Infrastructure: Docker, GitHub Actions, Vercel, OpenTelemetry, Git

Frontend: React, Next.js, React Native, Chart.js

WORK EXPERIENCE

Software Engineer – [MindMitra](#)

Aug 2025 - May 2026

DePauw Neuroscience Department

Greencastle, IN

- Took technical ownership of a shipped React Native cognitive-wellness app, leading a three-engineer team in moving AI and data workflows from the mobile client to an independently deployed backend while delivering updated iOS and Android builds
- Architected and deployed a 25+ endpoint Node.js/Express API on Vercel with MongoDB Atlas, centralizing authentication, AI quiz content generation, personalized learning state, and quiz performance telemetry
- Built an automated demand-aware GPT-4 content pipeline that identifies question-bank gaps across 43 subdomains and applies embedding-based semantic deduplication before persistence
- Remediated exposed client-side credentials by migrating AI operations server-side; added session authentication, Joi validation, tiered rate limits, and 57 automated tests across 18 Jest/Supertest suites

Software Engineering Intern

Jun 2024 - Aug 2024

Togglecorp

Kathmandu, Nepal

- Optimized Django REST Framework and PostgreSQL analytics over 200K+ consumer records across five regions through targeted indexing, query restructuring, and reduced response payloads
- Implemented backend filtering and aggregation workflows that converted behavioral and transaction data into regional and spending-tier datasets consumed by an interactive React and Chart.js dashboard
- Prototyped customer segmentation and sales-forecasting pipelines using K-means and a lightweight multilayer perceptron, formatting model outputs for dashboard evaluation across targeting, recommendation, and demand-planning use cases.

PROJECTS

Fleetrac — AI Governance Control Plane | *FastAPI, Next.js, SQLite, OpenTelemetry*

2026 – Present

Independent Project

[GitHub](#)

- Built a vendor-neutral telemetry pipeline that ingests runtime events from OpenTelemetry, AWS Bedrock, Azure OpenAI, and Vertex AI, normalizing provider payloads before rule-based detection, incident correlation, evidence packaging, and remediation guidance.
- Developed a closed-loop workflow across 10 simulated agent systems, connecting live telemetry to owner queues, evidence packages, approval-gated remediation, notifications, and post-action verification through a FastAPI backend and Next.js operator console

MediVise — Medical Document RAG Platform | *FastAPI, PostgreSQL, Supabase, RAG*

Aug 2025 - Nov 2025

Capstone Project

[GitHub](#)

- Built a FastAPI document-ingestion and RAG backend using Phi-4-mini, enforcing per-user authorization across uploaded documents and metadata stored through Supabase/PostgreSQL
- Implemented hybrid semantic and keyword retrieval with configurable chunking to control retrieved context size, and cached RxNorm and geocoding lookups to reduce redundant external API calls

EDUCATION

DePauw University, IN — **B.A. Computer Science**

Graduated May 2026

Honors: [Cum Laude](#), Computer Science Honors Award

Leadership: Co-founder & President, DePauw AI Club

Certifications: [IBM AI Fundamentals](#) | [IBM Quantum Enigmas](#)