

BINOD BAJGAI

Backend Developer — Python | SQL | FastAPI
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PROFESSIONAL SUMMARY

Backend-focused Computer Science (AI) student skilled in Python, FastAPI, and SQL. Independently built and shipped Sikamitra, a full-stack AI study platform, owning the database, authentication security, and deployment end-to-end. 1st Runner-Up, Hult Prize Softwarica. Seeking a backend development internship.

TECHNICAL SKILLS

Backend: Python, FastAPI, Flask, REST API Design, JWT Authentication, OAuth, Object-Oriented Programming (OOP)
Database: SQL, MySQL, PostgreSQL, SQLAlchemy ORM, Alembic Migrations, Schema Design, ER Diagrams
Infrastructure & Security: Redis, Rate Limiting & Quota Design, Security Hardening (CSP/HSTS), Dependency Auditing
AI/LLM: LLM API Integration, OCR Pipelines, Prompt-Driven Content Generation
Tools: Git, GitHub, VS Code, MySQL Workbench, Vercel (Deployment)

PROJECTS

Sikamitra — AI-Powered Study & Mock Test Platform | *Personal Project · 2025 · Completed*

Python, FastAPI, SQLAlchemy, MySQL, Alembic, JWT, Redis, React, TypeScript, AI/LLM

- Engineered an AI pipeline that turns uploaded study material (PDF, DOCX, PPTX, images via OCR) into summaries, question banks, and mock tests.
- Architected a layered FastAPI backend and MySQL schema (JWT + Argon2 auth, Alembic migrations); built the React/TypeScript frontend, deployed on Vercel.
- Passed a pre-launch security audit (CSP/HSTS, hashed tokens, upload validation) with zero dependency vulnerabilities.

EcoTrack — Personal & Industrial Carbon Footprint Tracker | *Team Project · 2025 · 4 members · 5 Agile/Scrum sprints*

Python, Flask, scikit-learn, OpenAI API, Chart.js, Agile/Scrum

- Built the Sustainability Score, a 0–100 metric vs. global/Nepal benchmarks, visualized as an animated SVG gauge.
- Implemented Z-score anomaly detection ($|z| > 2.0$) over a rolling 30-day window to flag emission spikes.

Personal Portfolio Website | *Personal Project · 2024*

Python, Flask, PostgreSQL, Cloudflare

- Built and deployed a Flask portfolio site on Vercel with a custom domain (binodbajgai.com.np) via Cloudflare; hardened with CSRF protection and secure sessions.

EDUCATION

BSc (Hons) Computer Science with Artificial Intelligence

Softwarica College of IT & E-Commerce (affiliated with Coventry University), Kathmandu, Nepal — Expected 2028

ACHIEVEMENTS

1st Runner-Up — Hult Prize, Softwarica College

- Co-developed “Sarathi,” a map-based concept for surfacing authentic local spots overlooked by mainstream apps; presented to judges and placed 1st Runner-Up.