Abhiyan Khanal

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SUMMARY

Full-stack developer and Computer Engineering student at IOE Pulchowk Campus. I build web and mobile applications end to end with JavaScript, TypeScript and Python, using React, Node.js, Express, Supabase, Flutter and PostgreSQL, and I design the database schemas and APIs behind them. AWS Certified Solutions Architect – Associate, with hands-on backend and DevOps internship experience, and a growing interest in cloud infrastructure and applied AI. I also teach: I have instructed cloud sessions at LOCUS and helped run workshops at the Pulchowk IT Club.

EXPERIENCE

Instructor, Software Fellowship · LOCUS 2027, Pulchowk Campus 2026

- Taught "AWS Cloud and Deployment", Day 7 of the Cloud Fellowship run with the AWS Student Builder Group: a hands-on session on cloud computing fundamentals.
- Built the slides and covered what cloud is and why teams use it, service models (IaaS, PaaS, SaaS), deployment models (public, private, hybrid) and AWS.
- Received a Certificate of Appreciation as an instructor.

Event Manager · IT Club, Pulchowk Campus Jun 2025 – May 2026

- Helped run technical events and learning sessions for the campus IT club, including a 3-day hands-on Linux and cybersecurity workshop for beginners.
- Helped run the club's five-day Introduction to Engineering session for new students.
- Mentored participants at a 2-day Git and GitHub workshop for first-semester students: version control, branching, pull requests and the GitHub Student Developer Pack.

Backend and Platform Intern · Ninja Infosys Sep 2025 – Nov 2025

Kathmandu · Hybrid

- Worked on back-end web development and DevOps as part of the platform team.

Freelance Full-Stack Developer Present

- Build client projects across the stack with React, Next.js, Node.js, Express, Supabase, PostgreSQL and Flutter, owning features from the first sketch to deployment.
- Janakpur Fish House (janakpurfishhouse.com): React and Node.js website for a Mithila-style fish restaurant in Kathmandu, with a menu, gallery, news and press section, contact form and a login-protected admin site for managing gallery photos and news.
- Hamro Bus: intercity bus booking site with search, a seat map and an operator admin dashboard.

EDUCATION

Bachelor of Computer Engineering · Pulchowk Campus, IOE, Tribhuvan University Jul 2023 – Present

Lalitpur, Nepal

PROJECTS

Gantabya – Group Trip and Trail Platform elsendero.netlify.app · github.com/Abhiyan31415/Elsendero

React, Node.js, PostgreSQL, Socket.IO

- Started at KU HackFest 2024 (48 hours) and developed into a deployed full-stack app.
- Interactive Mapbox GL map with clustered trails, driving routes drawn through checkpoints via the Directions API, a trail-creation form with image upload, and place search with price filtering.
- Trip events with a real-time Socket.IO chat room per event, persisted in PostgreSQL; bcrypt and JWT authentication with protected routes.
- Backend moved from MongoDB to PostgreSQL without changing the frontend; API containerised with Docker; frontend on Netlify and API on its own server.

Janakpur Fish House – Restaurant Website and Admin janakpurfishhouse.com

React, Node.js

- Live client website for a Mithila-style fish restaurant in Kathmandu: filterable menu of 18 dishes, photo gallery, news and press section, about page and contact form.
- Login-protected admin site backed by a database and server-side image uploads, so staff can publish gallery photos and news without a developer.

CogniCare – Dementia Care App github.com/anujpaude1/dementia

Flutter, Django REST, WebSockets

- Team of five; mobile app with separate patient and caretaker experiences: medicines, appointments, notes, emergency contacts, and live location with a safe-zone geofence that alerts when the patient leaves it.
- Voice companion: a Django Channels consumer streams microphone audio to Deepgram speech-to-text, a Groq-hosted LLM replies, and the answer is spoken back; a typed chat is also available.
- Django REST backend with token authentication, caretaker and patient user models, validated JSON medical records, and background location reporting from the app.

Kanun Sathi (कानुन साथी) – AI Legal Assistant (RAG) github.com/Abhiyan31415/TechSprint_CharDevs

FastAPI, RAG, pgvector, Gemini

- Retrieval-Augmented Generation (RAG) platform (team of 4) answering legal questions in Nepali with verifiable page-level citations to source law (Constitution, criminal and family law).
- Pipeline on the open-source Morphik Core framework: PDF chunking, 768-dim embeddings (Ollama), pgvector similarity search, and Gemini 2.5 Flash generation with citation-enforcing prompts; async ingestion via Redis/ARQ workers.
- React + TypeScript frontend (chat with saved history, citation cards, lawyer dashboard for document upload and research); full stack containerized (FastAPI, PostgreSQL/pgvector, Redis, Ollama) with Docker Compose.

Evolutionary Creatures – Genetic Algorithm Simulation github.com/ankitrajmehta/genetic_algo

C++, SDL2

- Team of two; a simulation where 500 creatures with sparse neural-network brains evolve over 100 generations through selection and mutation, with species tracking and protection for newly evolved designs, in two challenge modes.
- Live SDL2 visualisation of the population and replay of the best creature.

Hamro Bus – Bus Booking Platform github.com/Abhiyan31415/HamroBus

Node.js, Express, MongoDB

- Built by a team in a few days: passengers search buses by origin, destination and date and choose seats on a seat map; operators manage buses from an admin dashboard.
- Express and Mongoose REST API (bus CRUD and validated search), bcrypt and JWT operator authentication, Chart.js dashboard, bus tables and add-bus form.

DDA Drug Registration Portal – Dossier Filing and Review github.com/Abhiyan31415/char-devs-telemedicine
React, TypeScript, Express 5, Prisma, PostgreSQL, JWT, Docker

- 1st runner-up (team of 4) at a national telemedicine hackathon: portal for filing drug registration dossiers (ICH CTD Modules 1–5) with Nepal's Department of Drug Administration, with an applicant wizard, reviewer queue and lead-reviewer approval board.
- Later added JWT role guards, server-enforced status transitions, Vercel Blob uploads, Docker Compose and GitHub Actions CI.

HACKATHONS & ACHIEVEMENTS

- **Winner, Tech Auction** (COESIS, 2026)
- **1st Runner-Up**, hackathon at the 4th National Telemedicine & 1st National Digital Health Conference (2026): DDA Drug Registration Portal
- **Nepal-US Hackathon** (2026): MindTune, a wearable-data stress classifier that recommends music
- **KU HackFest 2024**: built Gantabya in 48 hours

CERTIFICATIONS

AWS Certified Solutions Architect – Associate · Amazon Web Services Jul 2025

Advanced Learning Algorithms · DeepLearning.AI Jan 2025

Annual Nepal AI School · AI Nepal 2024

Supervised Machine Learning: Regression and Classification · DeepLearning.AI, Stanford Nov 2023

Developing Back-End Apps with Node.js and Express · IBM / Coursera 2023

SKILLS

Languages: JavaScript, TypeScript, Python, C++, Dart, SQL, Go (learning)
Frontend & mobile: React, Next.js, Vite, Tailwind CSS, Material UI, Flutter, Firebase
Backend & APIs: Node.js, Express, FastAPI, Django REST Framework, Supabase, REST APIs, Socket.IO and WebSockets, JWT authentication, Redis
Databases: PostgreSQL, pgvector, MongoDB
AI & data: RAG and LLM APIs, embeddings and vector search, speech-to-text (Deepgram), machine learning, genetic algorithms
Cloud & DevOps: AWS, Docker and Docker Compose, Linux, Netlify, VM deployment and Nginx, Git and GitHub
Maps: Mapbox GL, OpenStreetMap
Other: Figma, Canva, teaching and mentoring, event and team management