SAKAR DAHAL

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SUMMARY

Engineer with a deep interest in computer science with hands-on experience in full-stack development through personal projects. Proficient in Python, JavaScript, Django, Next.js and React with focus on building API driven applications and integrating machine learning features in the web platform.

EDUCATION

Institute of Engineering Thapathali Campus   2025
BE in Electronics, Communication and Information Engineering

Kathmandu Bernhardt Secondary School   2021
+2 Science in Physics Stream

SKILLS

Languages
Python | Javascript | HTML | CSS | C++

Machine Learning
Image Processing | MobileNetV2

Databases
SQLite PostgreSQL

Framework and Libraries
Django | Django Rest Framework | Django ORM | Next.js | React | NodeJS

Cloud Platform
Microsoft Azure

Tools and Technologies
Git, GitHub, Postman, Docker

WORK EXPERIENCE

Ajna Lab, Bhimsengola, Kathmandu 🔗   07/2025 – 10/2025
Full-Stack Development Intern
- Developed a fully functional e-commerce website as a skill assessment project, including product listing, cart, and order management features.
- Worked on API integration for the company's main website, ensuring smooth communication between frontend and backend services.
- Contributed to an internal company project, collaborating closely with the development team while following version control and agile processes.
- Gained hands-on experience with Django, Django REST Framework, Next.js, and integration workflows.

Nepal Telecom, Jawalakhel, Kathmandu   06/2025 – 07/2025
Internship
- Worked with n8n to create basic automation workflows for internal tasks and data processing.
- Created and tested basic n8n projects including API-triggered workflows, scheduled tasks, and data transformation pipelines.
- Utilized Docker for containerizing applications, managing development environments, and improving deployment consistency.

PROJECTS

Detection and Prevention of Citrus Diseases
- Developed a citrus disease detection system using a mobile app with ResNet for feature extraction and MobileNetV2 for classification with confidence scoring.
- Integrated RAG-based chatbot using LLAMA 3.2 11B vision model for image based analysis and prevention guidance, supported by custom agricultural knowledge base.
- Built a website with React for frontend, including user authentication (login/register) for access control.

E-Commerce Website 🔗
- Developed a full-stack E-Commerce website with React frontend and Django REST Framework backend during internship assessment.
- Built product, cart, and order management systems with a seamless checkout workflow and Stripe payment integration.
- Implemented user authentication with with JWT-based login/logout and registration.
- Designed RESTful APIs and integrated frontend-backend communication to provide a complete e-commerce experience.

API for Book Review Application
- Designed and implemented a Django REST Framework API supporting user authentication (registration, login, password change/reset) with email verification.
- Integrated custom permission controls using API Views to restrict access based on user roles where users can add books and reviews, delete their reviews and book owners can remove their books.

PUBLICATIONS

Research Gate 🔗   10/04/2025
Integrating Machine Learning and RAG-Based Chatbot for Mandarin Orange Disease Detection in Hilly Region of Nepal

Research Square 🔗   27/02/2025
Integrating Machine Learning and RAG-Based Chatbot for Mandarin Orange Disease Detection in Hilly Region of Nepal