

Dhiraj Pant

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[LinkedIn](#) | [GitHub](#) | [Portfolio](#)

Education

Far Western University

Bachelor of Engineering in Computer Engineering | 2026

Mahendranagar, Nepal

Morning Glory Higher Secondary School

Intermediate in Science | 2020

Mahendranagar, Nepal

Skills

- **Programming & Data:** Python, SQL, NumPy, Pandas, Matplotlib, Seaborn
- **Data Analysis:** Exploratory Data Analysis, Data Cleaning, Data Transformation, Data Visualization
- **Databases:** PostgreSQL, pgvector, SQL Querying
- **Machine Learning:** Scikit-learn, PyTorch, TensorFlow, Keras
- **AI & NLP:** LLMs, RAG, NLP, Embeddings, Semantic Search, Model Evaluation
- **Backend & APIs:** FastAPI, REST APIs
- **Development Tools:** Git, Docker, Linux, MLflow
- **Computer Vision:** OpenCV, YOLO, Pillow

Internship Experience

AI Engineer – AdVibe360

1 Mar 2026 – 16 Sep 2026

- Worked full-time on Generative AI solutions, developing LLM-powered applications and contextual chatbots integrated with backend applications, external APIs, and business workflows.
- Built end-to-end RAG pipelines covering document text extraction, chunking, embedding generation, vector indexing, and semantic retrieval to ground responses in domain-specific knowledge.
- Refined prompts, system instructions, and context structures to improve response relevance, consistency, and grounding.
- Used Python to develop AI application logic, data-processing components, and API integrations; tested and debugged retrieval quality, generated responses, and failure cases.
- Translated client requirements into AI workflows and prepared technical documentation, contributing across requirement analysis, workflow design, implementation, and testing.

Teaching & Trainings

Lead Instructor – 2-Day AI Bootcamp 2026

2026

Balmiki Lincoln College × DanpheLink Academy

- Led a two-day hands-on AI bootcamp for undergraduate students covering AI fundamentals, modern AI tools, prompt engineering, responsible AI, and AI career opportunities.
- Conducted practical sessions and guided participants through hands-on AI projects and applications.

Data Science with AI Instructor – DanpheLink Academy

- Delivered a project-based 3-month Data Science & AI course for students, covering Python, data analysis, Pandas, data visualization, machine learning, and Generative AI.
- Conducted practical sessions and guided students through hands-on exercises involving data processing, analysis, visualization, and AI applications.

Projects

AI HR Assistant

- Built an end-to-end RAG-based AI HR assistant combining knowledge-grounded Q&A with deterministic recruitment workflows for startups and SMEs.
- Added a hybrid retrieval pipeline combining BM25, vector search, Reciprocal Rank Fusion, and cross-encoder reranking to improve retrieval relevance.
- Implemented grounding, source citations, and confidence scoring to improve the reliability and traceability of LLM-generated responses.

Bank Chat Engine

- Designed a natural language to SQL banking assistant using LLMs for intent classification and entity extraction, with deterministic SQL generation from validated structured inputs.
- Added a multi-turn clarification engine using session state and a transition-based state machine to resolve incomplete or ambiguous user queries.
- Developed a PostgreSQL EAV data model to support heterogeneous banking entities and hierarchical queries across branches, loans, cards, ATMs, accounts, and services.

Research Works

PlantNetV1: A Deep Learning-Based Approach for Plant Disease Detection

April 2025

ResearchGate DOI: [10.13140/RG.2.2.29179.43047](https://doi.org/10.13140/RG.2.2.29179.43047)

- Proposed a custom CNN architecture for multi-class crop disease classification.
- Presented at the Second International Conference on Heritage, Innovation and Transformation (2025).

DeepDefend: A Multi-Stage Approach for Suspicious Transaction Detection

April 2025

ResearchGate DOI: [10.13140/RG.2.2.30018.29120](https://doi.org/10.13140/RG.2.2.30018.29120)

- Designed a multi-stage deep learning pipeline for suspicious transaction and financial fraud detection.
- Presented at the First International Conference on Emerging Research Trends and Innovation (2025).

Achievements & Certifications

- Global Nominee From Nepal – NASA Space Apps Challenge 2025 (Dhangadhi)
- 3rd Runner-up – Global IME AI/ML Hackathon 2025
- Machine Learning Specialization — DeepLearning.AI (Coursera)
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