

Rahul Dev Banjara

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SUMMARY

Machine Learning Engineer with 1+ year experience and proficiency in training and building learning models using PyTorch and Tensorflow, also some exposure to software development.

EXPERIENCE

AI Fellowship: **Fusemachines** | April 2024 - September 2024

- Engineered an industry-grade Computer Vision and AI for Governance project using state-of-the-art models.
- Hands-on experience in the Machine Learning project lifecycle.
- Grouped with colleagues and mentors to solve real-world challenges and data shifts when deployed in real life.
- Engaged in sentiment analysis, text classification, and other NLP assignments.
- Research paper reading sessions of the latest AI technologies and their implementation.
- Intensive training on Supervised and Unsupervised Deep Learning and Deep Generative models.

PROJECTS

[\[Link\]](#) Document Verification System

- Solved the issue of document fraud by allowing organizations to verify a person's government documents.
- The system used ResNet50 for document classification, YOLOv8 for details localization, and EasyOCR to extract details alongside Regex and **Natural Language Processing** to clean the text to verify the entry from the database, resulting in a genuine or fraudulent document as output.
- Used Streamlit for the user interface to call the model's pipeline.
- Managed to get an overall accuracy/success rate of **82%**.

[\[Link\]](#) AarthikNiti - Expense Tracker

- Worked as a **Machine Learning Engineer**, Lead Backend Developer and Project Manager.
- Experienced at working with **Agile** Principles to develop an AI-Powered Expense Tracker web app.
- Integrated a **chatbot** responsible for providing suggestions to the user regarding his spending patterns.
- Created RESTful APIs using FastAPI for user authentication, expense tracking, and real-time analytics.

[\[Link\]](#) Medical Chatbot

- Developed a RAG-based medical chatbot to address the issue of retrieving accurate and reliable medical information.
- Solved the issue of LLMs getting very large input (e.g., an entire medical book) at once for one query by a user.
- Integrated SOTA LLM, Llama 3.1, with Pinecone vector database using Langchain for the exact needed context to the model.
- Deployed the chatbot locally using Flask and HTML, and CSS for a user-friendly web interface.

[\[Link\]](#) Resume Sense: AI-Powered ATS Resume Analyzer

- Resolved the issue of manual scanning of resumes by recruiters with the help of LLMs to check how well the user fits the job description.
- Used Ollama with an open source model, Mistral, to analyze resumes offline and provided a **Percentage match score, strengths, and missing skills** of the candidate to the position details, and Streamlit for the UI development.

[\[Link\]](#) Potato Disease Classification

- Developed a CNN-based classification system using Tensorflow to identify disease by providing a leaf image.

- Applied preprocessing techniques such as data augmentation and image normalization, along with weight decay, to handle the overfitting. Used Streamlit to make the frontend for the system, where the user uploaded images.

TECHNICAL SKILLS

Languages: Python, Java, C

Frameworks: PyTorch, Tensorflow, FastApi, Flask, MLflow

Tools: Git, Docker, DVC, MySQL, Jira, Amazon EC2

EXTRACURRICULAR ACTIVITIES

- **Community Leader** at AI Learners Community, Herald College Kathmandu, where I conducted workshop sessions on Data Analysis, Machine Learning, and Generative AI in collaboration with Fusemachines and organized FYP demonstration projects of passed-out seniors of different IT domains showcasing to the first-year students.
- Written blog posts on medium based on experience and new AI technologies.

EDUCATION

Herald College, Kathmandu | **B.(Hons) in Computer Science** | 2023 - 2026

Capital College and Research Center, Kathmandu | **10 + 2** | 2020 - 2022

CERTIFICATIONS

[\[Link\]](#) **Microdegree™ in Artificial Intelligence** | Fusemachines

[\[Link\]](#) **Machine Learning Specialization** | DeepLearning.AI

[\[Link\]](#) **Python 3 Programming Specialization** | University of Michigan

LANGUAGES

Nepali (Native), English (Working proficiency), Hindi (Working proficiency)