PRABIGYA PATHAK

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EDUCATION

Pulchowk Campus, IOE

Bachelors in Electronics, Communication and Information Engineering *Oct. 2020 – Apr 2024*

St. Xavier's College

Maitighar, Kathmandu *2018 – 2020*

EXPERIENCE

Software Engineer Intern Sept 2024 – Dec 2024

LIS Nepal, Yomari Company

- Collaborated with the core ML team on the Intelliome Project, focusing on converting natural language into SQL (on Snowflake), RAG (retrieval-augmented generation) for PDFs, and analysis of CSV and audio data.
- Developed an Intent Recognition System and Drill-Down Methodology leveraging database metadata, NLP techniques, LangChain, and large language models (OpenAI and Gemini).
- Improved accuracy of SQL generation by 20% achieving upto 80% accuracy.
- Contributed to the automation of metadata generation and backend integration using Django REST Framework (DRF).
- Leveraged Celery and Redis for asynchronous tasks

Computer Vision Engineer Intern Jun 2024 – Jul 2024

Crimson Tech Pvt. Ltd.

- Developed a smart YOLOv8 annotation software using PyQT for efficient labeling and management of datasets.
- Worked on Nepali Number Plate Detection and Recognition System, achieving a 95% mAP@50.
- Performed Number Plate detection using YOLOv8 and digit identification using segmentation with the ResNet-Unet architecture and OpenCV
- Integrated features such as trigger lines, regions of interest (ROI), and lane drawing for advanced functionality.

PROJECTS

HackGPT | *Langchain, LLM, RAG, Huggingface* 2024

- Developed a GUI based tool for using any LLM like OPENAI, Gemini apis for retrieval-augmented generation (RAG) workflows and prompt engineering tasks.
- Implemented advanced prompt engineering techniques and session-saving capabilities to enhance user interaction and experience.
- Integrated summary generation features utilizing Hugging Face API, custom-trained models, LLMs, and question-answering (QA) functionality.

MediPlant | *Python, FastApi, ML, Transfer Learning, Flutter* 2023 – 2024

- Developed a Flutter app deployed in Microsoft Azure cloud platform which can identify 4 tomato diseases
- Achieved 96.7 % accuracy in the detection of tomato diseases
- Trained on EffcientNetB0, Resnet50 and MobileNetV2 architectures for comparative evaluation

ZapMed (t5-small-MedicoSummarizer) | *NlP, transformers, Streamlit, RAG, Docker* 2024

- A useful tool for medical students to zap through their research papers. Fine-tuned on t5-small on 25,000 PubMed articles for 10 epochs on Google Colab
- Summarizes Medical Journal and QA functionality embedded

Minor Projects: | *Django, FastApi, SQL, Flutter* 2024

- RealChat: Django based app for real time message between users and their joined group.
- DarazReviewsAnalysis: Sentiment Analysis on Daraz App's comments on playstore.
- AppleDetectorApp: Can predict the Kashmiri apple with 89% accuracy and detect number of apples present in the basket. Trained on YOLOv5 model.

TRAINING/CERTIFICATES

AWS Academy Graduate - AWS Academy Data Engineering

- Got hands-on experience with various AWS services(AWS Lambda, Amazon Redshift, Amazon EMR, Amazon Kinesis, Amazon Athena, AWS Step Functions.
- Learnt data architecture, orchestration of ETL/ELT pipelines as well as AI management in cloud .

TECHNICAL SKILLS

Languages: Python, C/C++, SQL (Postgres, MySQL), Flutter

Frameworks: DRF, Django, FastAPI

Tools: Git, Docker, Redis, Celery, Selenium

Libraries: OpenCV, YOLO, transformers, NLTK, Tensorflow, PyTorch pandas, NumPy, Matplotlib,Beautiful Soup