Jyotsan Hamal

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Experience

Intern at **Subiz Innovations** as Python Automation Engineer

- Jun 2023 - Nov 2023 · 6 months
  - **Data Extraction** : Made a python bot which extracts the Nepal stock exchange stocks data into a csv file.
  - **OCR** : Used a **PaddlePaddle** OCR which converts Bank statement images, pdf into excel sheet.
  - **Data Cleaning** : Extracted data from different sites which i was able to clean for ML model training

ML Engineer at **Palm Mind Technology**

- Dec 2024 - Present
  - **Production-level Chatbot** : Built and deployed chatbots for real-time contextual responses, with features like booking, lead post, recommendation based on real-time location.
  - **Real-time Web Scraping Pipeline** : Engineered a live data extraction system using socket connections.
  - **OpenAI & Twilio Integration** : Integrated OpenAI APIs with Twilio to enable real-time user interaction and automation
  - **CG Motors Chatbot Revamp & Hyundai Deployment** : Migrated Hyundai chatbot from LangChain to LangGraph, integrated SQLite for memory, and optimized the RAG pipeline. Deployed and maintaining with improved performance and scalability.

Projects

Phone Call Agent: Developed a real-time phone call agent using Twilio and OpenAI APIs. The agent can book, reschedule, and cancel appointments through natural conversation, leveraging WebSocket for real-time communication. **Github** : Link

Libraries used:
• WebSocket • FastAPI • Twilio

Build Llama.cpp for Custom GPU Architecture: Built and configured llama.cpp for custom GPU architectures.Compiled llama.cpp for GTX 1650 Ti Mobile and RTX 3060 (via Salad), enabling support for efficient inference.Successfully served the gemma-3 4B GGUF multi-model setup.**Github** : Link

Libraries used :
• Llama.cpp • Cmake • CUDA Toolkit • Multer • REST API

PPOCRv5 Fine-tuning Backend: Built a FastAPI backend to receive images and PDFs from a frontend dashboard, enabling users to easily fine-tune a PPOCRv5 model. The backend handles data preprocessing, configuration, and training, streamlining the fine-tuning process for document OCR tasks. **Github** : Link

Libraries used:
• Pytorch • FastAPI • PaddlePaddle • Datasets

TempleVision : Developed TempleVision as part of my Final Year Project to enhance image colorization of black-and-white temple photos.Fine-tuned the DeOldify generative model using a dataset of 2,500 colorful temple images from Kathmandu, Nepal.Improved the model's ability to produce vibrant, culturally rich colorizations that preserve the essence of traditional temples. **Github** : Link

Libraries used:
• base64 • Pytorch • FastAPI

Training

AI Fellowship

- **Fusemachines** | Apr - Oct 2024
  - Engaged in a comprehensive AI fellowship focused on advanced machinelearning, deep learning, and computer vision
  - Applying technologies like face detection, gaze tracking, and head pose detection in Fellowship projects.

Education

Lincoln University,
Phoenix College of IT & Management
Maitidevi, Kathmandu
2022-2025

Bachelor of Information Technology
- BIT

Hope International College
Karkando , NPJ
2019-2021

High School