Nabaraj **Subedi**

ASPIRING ML ENGINEER

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"Srive to be What you want to be."

Profile

As an aspiring machine learning engineer, I believe in a learning-by-doing approach. I have completed multiple projects in various areas including image processing, object detection, natural language processing, and more. I have experience using popular tools and frameworks such as TensorFlow and PyTorch, and I have knowledge of advanced neural network architectures such as Convolutional Neural Networks, Recurrent Neural Networks,Transformer and Generative Adversarial Networks.

Technical Skill

Languages :-Python,Nodejs,C,C++

Architectures :- Convolutional Neural Networks, Recurrent Neural Networks, Generative Adversarial Networks(GANs), Transformers

Libraries :- TensorFlow, PyTorch, Keras, Hugging Face's Transformers

Dev Tools :- Google Collaboratory, Jupyter Notebook, Anaconda, Git, Visual Studio Code

Experiences

Prodigy InfoTech   *Remote-Mumbai, India*

MACHINE LEARNING INTERN   *Nov. 2023 - Jan. 2023*

- Worked on several Image Classification projects using Convolutional Neural Networks (CNNs)
- Applied Machine Learning algorithms like support vectorm machine,k-mean,logistic regression

Education

Paschimanchal Campus   *Pokhara -10 ,Lamachaur*

B.E. IN ELECTRONICS,COMMUNICATION AND INFORMATION   *2019 - 2024*

Projects

Image Captioning

CODE

- Developed an image captioning model using ResNet50 for feature extraction and LSTM for sequence generation.
- Preprocessed captions, created a vocabulary, and implemented a progressive generator for batch-wise training.
- Utilized a custom training loop to train the model, incorporating pre-trained ResNet50 for image feature extraction

Cultural Heritage Image Classification

CODE

- Conducted Image Classification using the ResNet9 model on a cultural heritage dataset with 2.5k images of 6 heritage sites in Nepal.
- Explored dataset properties, prepared datasets and dataloaders, and applied data preprocessing techniques, including data augmentation.
- Implemented a ResNet9 architecture, trained the model using a one-cycle learning rate policy, and evaluated performance on validation data.

Transformer Summarizer

CODE

- Use built-in functions to preprocess data
- Implement DotProductAttention, Causal Attention
- Build the transformer model,Evaluation of model
- Summarize an article

Crash Detection System

CODE

- Integrated Arduino,GPS,GSM ,Accelerometer and Bluetooth module to detect collision and inform rescue center along with location data.
- Implemeted a false notification prevention technique with the help of mobile app connected to crash system.
- Implemented facial detection system to detect the drowsiness condition of driver.

Chatbot

CODE

- Understand how the Reformer works,Explore the MultiWoz dataset
- Process the data to feed it into the model,Train model.
- Generate a dialogue by feeding a question to the model.

Ecommerce site

CODE

- Developed a backend using Nodejs and MySql and frontend using React
- Implemented Authentication,Payment and Order precessing feature.

Certifications

Machine Learning

DEEPLEARNING.AI COURSERA

- Build ML models with NumPy and scikit-learn and train supervised and unsupervised models.
- Built recommender systems,deep reinforcement learning model and trained a neural network with TensorFlow to perform multi-class classification.

Deep Learning Specialization

DEEPLEARNING.AI COURSERA

- Learnt about CNNs, RNNs, LSTMs, Transformers, and optimization strategies like Dropout and BatchNorm.
- Applied deep learning to diverse applications—speech recognition, music synthesis, chatbots, and more—demonstrating proficiency in Python, TensorFlow, and real-world AI challenges

Natural Language Processing Specialization

DEEPLEARNING.AI COURSERA

- Gained proficiency in both classical machine learning and state-of-the-art deep learning techniques for NLP applications.
- Developed skills to design applications for question-answering, sentiment analysis, language translation, text summarization, and chatbot creation.

Machine Learning Engineering for Production (MLOps)

DEEPLEARNING.AI COURSERA

- Designed ML Production system end-to-end and Built data pipelines.
- Established a model baseline, address concept drift, and applied best practices and progressive delivery techniques to monitor production system.

DeepLearning.AI TensorFlow Developer

DEEPLEARNING.AI COURSERA

- Handled real-world image data and explore strategies to prevent overfitting, including augmentation and dropout.
- Applied CNN, RNNs, GRUs, and LSTMs as while trainning them using text repositories.

Generative Adversarial Networks (GANs)

DEEPLEARNING.AI COURSERA

- Built basic GANs using PyTorch and advanced DCGANs using convolutional layers and used GANs for data augmentation and privacy preservation.
- Compared generative models, use FID method to assess GAN fidelity and diversity, learned to detect bias in GAN.