NCI

Configuration Manual

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 # Installation

pip install tensorflow==2.12.0

pip install opencv-python mediapipe scikit-learn pandas matplotlib tqdm pillow

pip install gradio requests h5py

 # Import modules and libraries

```
import os
import cv2
import numpy as np
import pandas as pd
from tqdm import tqdm
import matplotlib.pyplot as plt
from sklearn.preprocessing import StandardScaler
from sklearn.decomposition import PCA
from sklearn.cluster import KMeans
from sklearn.neighbors import KNeighborsClassifier
import tensorflow as tf
import mediapipe as mp
import imghdr
from collections import Counter
from tensorflow.keras import layers, Model, Input
from tensorflow.keras.applications import MobileNetV2
from sklearn.preprocessing import LabelEncoder
```

from sklearn.model_selection import train_test_split

from sklearn.metrics import classification_report, accuracy_score

import matplotlib.pyplot as plt

import requests

import gradio as gr

Running the code files

Step 1: Run the code blocks in KNN.ipynb

- Load the dataset.
- Generates CSV file with labels for body type and skin tone for all the images.

Step 2: Run FashionNet.ipynb

- Load the Dataset.
- Load the csv file.
- Will save the model in fashionnet_based-on_MobileNetV2.keras

Step 3: Unsplash

- Create Unspalsh API Key to access the images.

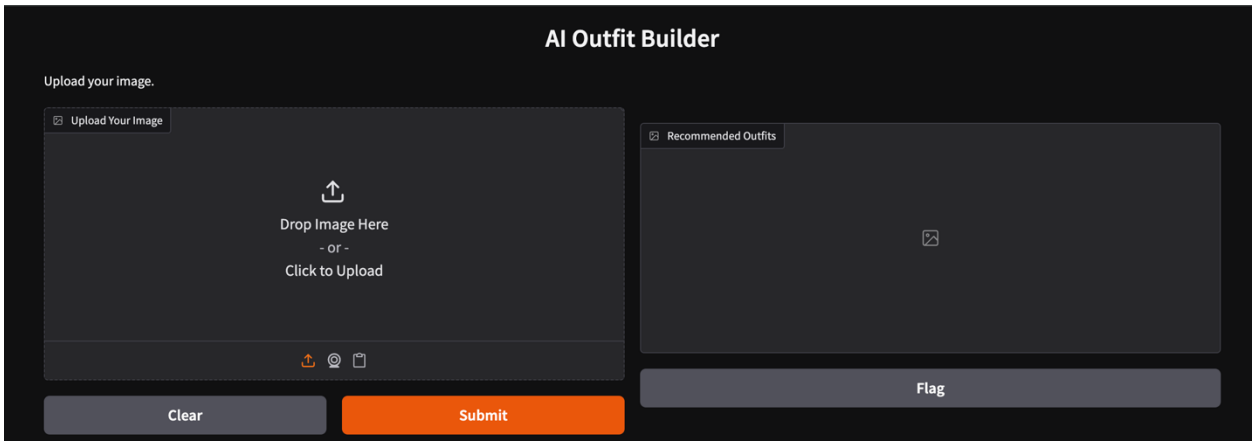
Step 4: App2.py

- Load the model (fashionnet_based-on_MobileNetV2.keras)
- Unsplash API access key.
- Run “python app2.py”
- Run the URL in the browser.

```
(base) nayanadorairaj@Nayanas-Air practicum % python app2.py
Loading model...
Model loaded.
WARNING: All log messages before absl::InitializeLog() is called are written to STDERR
I0000 00:00:1765288560.592675   99719 gl_context.cc:369] GL version: 2.1 (2.1 Metal - 88.1), renderer: Apple M
3
INFO: Created TensorFlow Lite XNNPACK delegate for CPU.
W0000 00:00:1765288560.594700   99871 inference_feedback_manager.cc:114] Feedback manager requires a model wit
h a single signature inference. Disabling support for feedback tensors.
W0000 00:00:1765288560.601903   99874 inference_feedback_manager.cc:114] Feedback manager requires a model wit
h a single signature inference. Disabling support for feedback tensors.
* Running on local URL:  http://127.0.0.1:7860
* Running on public URL: https://bdddbb5ba20e49eada.gradio.live

This share link expires in 1 week. For free permanent hosting and GPU upgrades, run `gradio deploy` from the t
erminal in the working directory to deploy to Hugging Face Spaces (https://huggingface.co/spaces)
```

- Upload the image



- Submit the image and get the results.