YOGA POSITION CLASSIFIER MODEL

My dataset contains the images of different people who are doing different yoga asanas. So I decided to use image classification to check what type of asana it is. I used libraries the following libraries:

- Matplotlib.pyplot
- Matplotlib.image
- Random
- Cv2
- Numpy
- Tensorflow
- tensorflow.keras.utils
- sklearn.model_selection
- sklearn.metrics
- tensorflow.keras.preprocessing.image
- warnings

I written the code in jupyter notebook,the size of the dataset is 1GB.All devices can run this code which has Specification equal to more than :

Device name	DESKTOP-71HUPAJ
Processor	AMD Ryzen 5 3500U with Radeon Vega Mobile Gfx 2.10 GHz
Installed RAM	8.00 GB
System type	64-bit operating system, x64-based processor
Pen and touch	No pen or touch input is available for this display

Program :

I given the dataset path and from that directory and joined all list path,using append ,refindall printed out total labels,images,images path,asanas.Now I shuffled the images and printed out randomly using plt.show().

Taking X_data,Y_data as train data and labels_data with some limit.printing out the values of train and validation and test. Now using imagedatagenerator function making the image be visible to the model easily so it can scale, train and test the images.

Now using DenseNet121 getting pretrained_model into the existing model by giving inputshape,weight and pooling.Updating the inputs,drop_layer,x layers and outputs and implanting model by tf.keras.model.

Now giving epochs count to train the model with optimixer ‘categorical_crossentropy’,using sccuracy as a metrics and fitting the model with 50 epochs.

Checking the model summary and our model is trained now and then using matplotlib I plotted accuracy,loss,validations to check how training and validation happened.

Now I started to predict the asanas of the image by y_predict=model.predict function.testing the model by using different images of the dataset and using if loop printing the asanas name is correct or not.

The final outcomes are matched according to the name of the asanas.