

Report for Image Classification Model

The given videos were first spilt into images by 1 frame per second with names of the files in a chronological order as provided in the drive folder. Then an excel file was created which contained the file names of all images and the associated labels. For the purpose of checking the intra-rater reliability, I paired up with Naveen Gowda J. I have compiled and provided the results for the same in a csv file. The kappa score comes out to be 0.83 which is higher than the threshold limit of 0.8 as mentioned in the question.

The total images present are 1640. For creating an array of all these images, keras library has been used to load each image to a target size of (30,30,1) in RGB mode. These images are appended to a list which is later converted to an array to create the training and testing datasets. A 0.2 split has been used here for splitting purpose. Then we start with building the CNN model. 128 neurons have been used and epochs have been set to 5. A test accuracy of 91.46% is achieved with this model.

For the pre-trained model ResNet50 has been used after a brief literature survey on different types of state-of-art models such as VGG 16, VGG 19, EfficientNet and so on. ResNet-50 is a convolutional neural network that is 50 layers deep. It has been trained with our dataset. The target size here has been changed to (299,299,3) instead of the earlier size. The minimum prescribed target size for ResNet50 is (224,224,3). The number of epochs has been set to 20. The accuracy has been evaluated to 88.11%.