

Without Transfer learning

Before using transfer learning we tried out few models with the following settings:

We used early stopping and callback for all these models -

1st model:

Learning rate: 0.0001

CNN layer filters: (8,16,32,64,128)

Optimizer: Adam

Activation function: ReLU with Maxpool2D

kernel size: 3x3

Accuracy: 68%

2nd model:

With the same previous model, increasing the learning rate alone improved our accuracy to 71%.

3rd model:

Changing the start_f value to 32 in the 2nd model we got an accuracy of 73%

4th model:

After changing the optimizer from Adam to SDG in 3rd model we got accuracy of 74%

5th model:

When we changed the Conv2D filters to 64, 128,256. After adding a dropout of 0.5 we could reduce overfitting and the accuracy reached 75%.

Transfer Learning

Using Adam optimizer and VGG with a learning rate of 0.0001 our accuracy increased to 87%. Then we tried various other models like Xception, InceptionResNetV2, NASNetMobile, NASNetLarge, DenseNet201. We got the best result from DenseNet201 with optimizer RMSprop with an accuracy of 92%.