Data Augmentation

Refers to Generating many images of the same type but different orientation. This technique is used when we want to train our deep learning neural networks but we have less data to do that.

Have done two demos

After training your models, you can save a pickle file for reference

Importing pickle and writing files

Import pickle

pickle\_out = open(“filename”, “wb”)

pickle\_dumb(history.history, pickle\_out)

pickle\_out.close()

Importing pickle and reading files

Import pickle

pickle\_in = open(“filename”, “rb”)

saved­\_history = pickle\_load(pickle\_in)

print(saved­\_history)

ConfusionMatrix , Classification Report

Callbacks(CheckPoint) to Save the Best Model while training, through all those number of epochs

Check here <https://machinelearningmastery.com/check-point-deep-learning-models-keras/>

Early stopping to save time when the model stops getting better after the best model has already been identified

Check the concept of Reducing Learning Rate on Plateu

Batch Normalization

Reduces overfitting

Reduces number of epochs

Makes training stable and hence increases learning rate

Slows down training

Code model.add(BatchNormalisation))

Using Pretrained models in Keras, e.g. resnet