Robotic Arm Classifier – Model File Explanation

- Shuffle the samples
- Split the data between training and validation (70% data is used for training and 30% for testing)
- Augment the training data (We double the data, by copying it twice)
- Balance the training data to have equal samples of “Push”, “Pull” and “Nothing”
- Separate the “data” and “labels” to feed them to the model
- Classifier configuration
- Two models will be created
  - A best model – With the maximum accuracy
  - An end model – Which gets created at the end of configured number of iterations
- Plot training and validation history for accuracy and loss

Robotic Arm Classifier – Some Notes

- The use of “seed” function is to get the same random sequence every time the program is executed
- If we DO NOT use “seed”, the classifier script output will vary every time, it is executed
- Change the variable “index1” in the model creation file, to set the total number of “recorded samples” that we have

Robotic Arm Classifier Changes – Some Tips

- Following 4 classifier parameters can be changed using CSV file, used by automation script
  - Positive Weight
  - Negative Weight
  - L2 Regularization Parameter
  - Learning Rate

- Following parameters can be changed using the model file itself
  - Model layers (filters, kernel size)
  - Batch Size
  - Epochs/Number of iterations

Model Layers and Parameters - Modifications

To be done in the next session