**Weekly report**

*Work on TFRecords and CASIA dataset*

TFRecords is now being successfully written and successfully read into the file.

We think (!) that it is being successfully used to train the neural network, but we haven’t been able to process enough files yet to test this.

There are still some bugs left, we haven’t been able to incorporate tensorboard yet.

But we are able to do some image augmentation (rotation) and hope to do more soon (translation and scaling)

Batching and shuffling seem to work

We have the ability to incorporate all of the isolated characters in the CASIA offline database and plan to do this as soon as time permits.

*Work on transfer learning*

With transfer learning I have made a script that can load and feed data into a CNN and another script that can load and print out bottlenecks from a CNN. In addition, I have started a script that will read in the bottlenecks I save from a loaded model and uses them to train the final layer of a CNN but with 30 outputs instead of 10.

It is worth mentioning that this work will be good as a rough proof of concept however once we have the dataset complete, we will have to retrain the CNN with 10 outputs so that we can keep training and testing data separate. In addition these scripts will have to be altered to do everything in TFrecords.

**Action points for the next week**

1. Work on the bottleneck script so that it can save the bottlenecks as a dataset.

2. Continue to work on a script to retrain the final layer of a CNN using loaded bottlenecks

3. Figure out how to read in TFRecords

4. Once we can read in TFRecords files, ensure they can be put in the network to train it.