**Weekly report**

We re-wrote the model from scratch and now it works as intended achieving >90% accuracy, for a two convolution layer, two fully connected layer model on a subset of Chinese characters.

Adding more convolution and fully connected layers should be easy.

There were three independent things wrong with it before, so debugging any of these was not solving the problem as a whole. The issues we had were: batching was shuffling the dataset; shuffling was shuffling images and labels independently; we were outputting a ReLU function.

For now we have ignored batching, which slows down how fast our network learns, and means we can’t put in all our data. As a result, we are only passing in a few characters (10-50) rather than the whole set (of 3755).

We have also ignored shuffling, which would increase the accuracy of our network.

To make these work we would need to implement TFRecords, saving and outputting files in the tensorflow format but we have decided to do this next semester as it would be a large challenge.

We have now run the network for both MNIST to confirm it works for those. Now we have run it for subsets of Chinese characters ranging from 10-50 characters.

**Action points for the winter break**

1. Run many different simulations of different types

2. Read up on theory such as the Adam Optimizer and t-SNE

3. Write the report