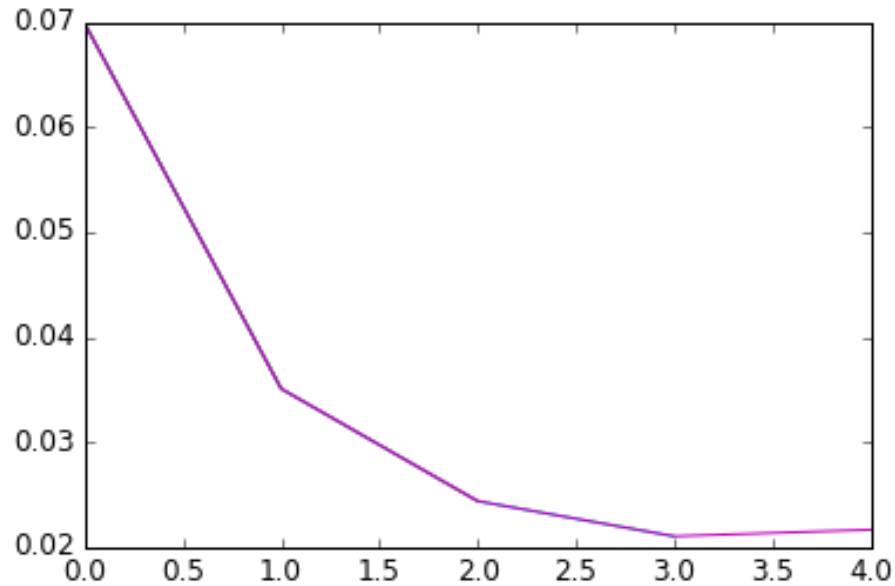


HW6: CNNs and Transfer Learning Report

1. Test loss curve on MNIST-1459



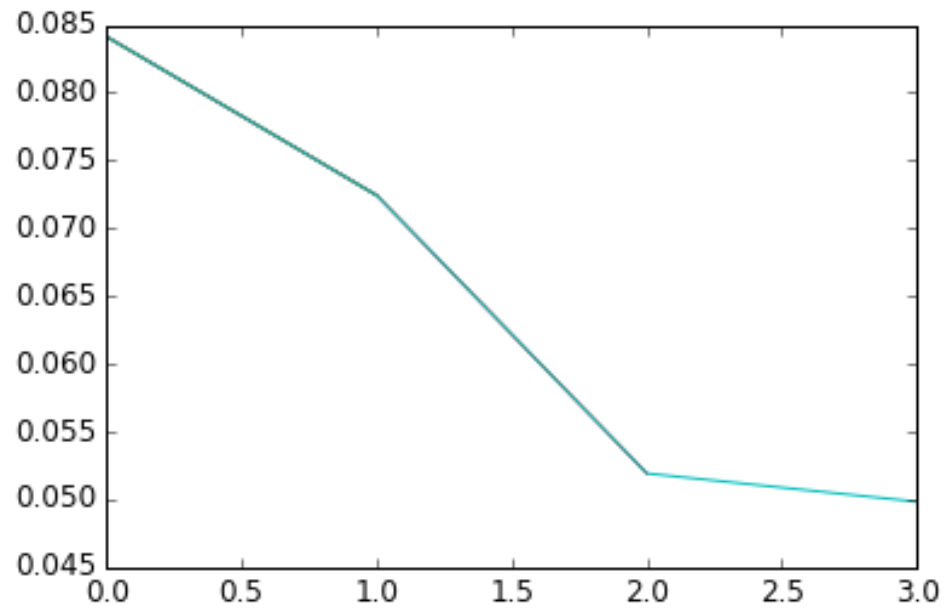
2. Test loss curve on transferred MNIST-023678:

a. with fine-tuning everything

Uncomment the below two lines for fine-tuning everything:

```
optimizer = tf.train.AdamOptimizer(name="adam_023678")
```

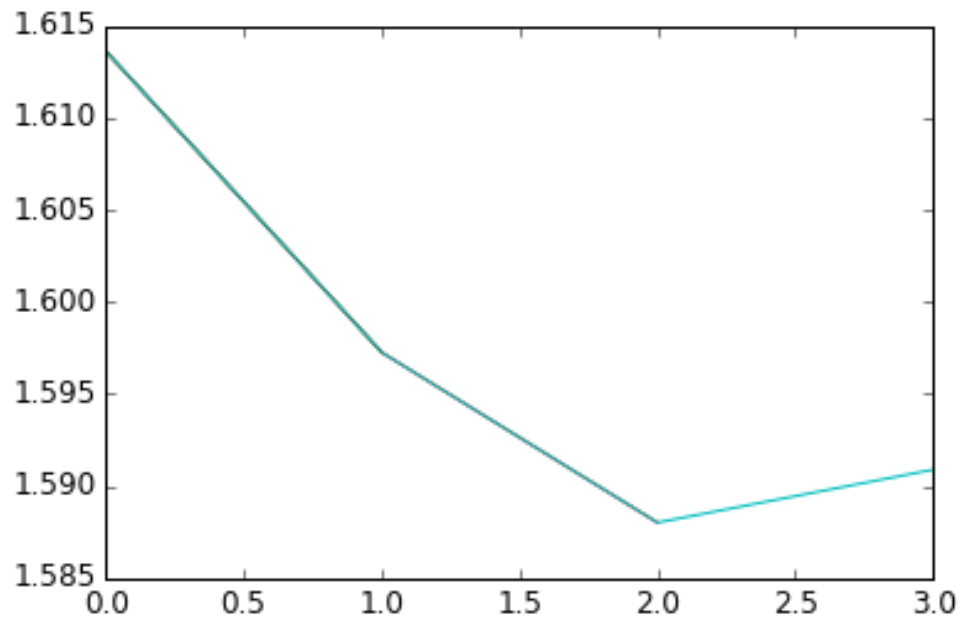
```
training_op = optimizer.minimize(loss) #without freeze
```



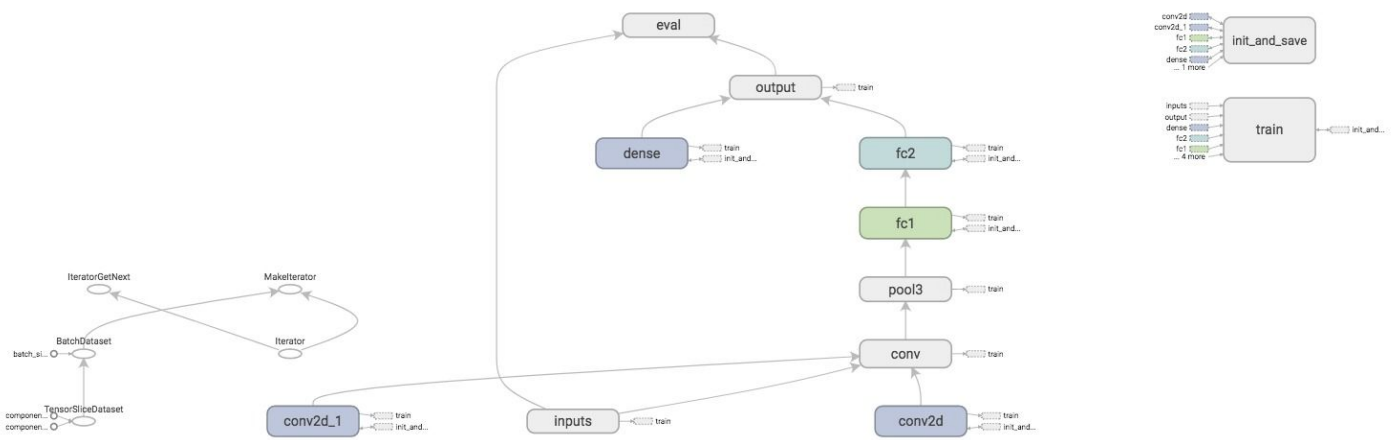
b. with frozen layers up to fc2 (and not including)

Uncomment below three lines for frozen layers upto fc2 not including:

```
optimizer = tf.train.AdamOptimizer(name="adam_023678", learning_rate=0.2)
train_vars = tf.get_collection(tf.GraphKeys.TRAINABLE_VARIABLES,
scope="fc2_023678|softmax_023678")
training_op = optimizer.minimize(loss, var_list=train_vars)
```

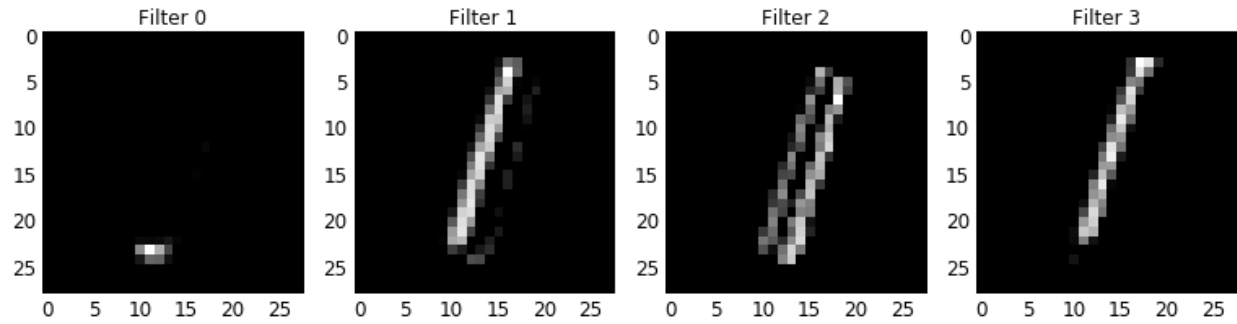


3. Final execution graph.

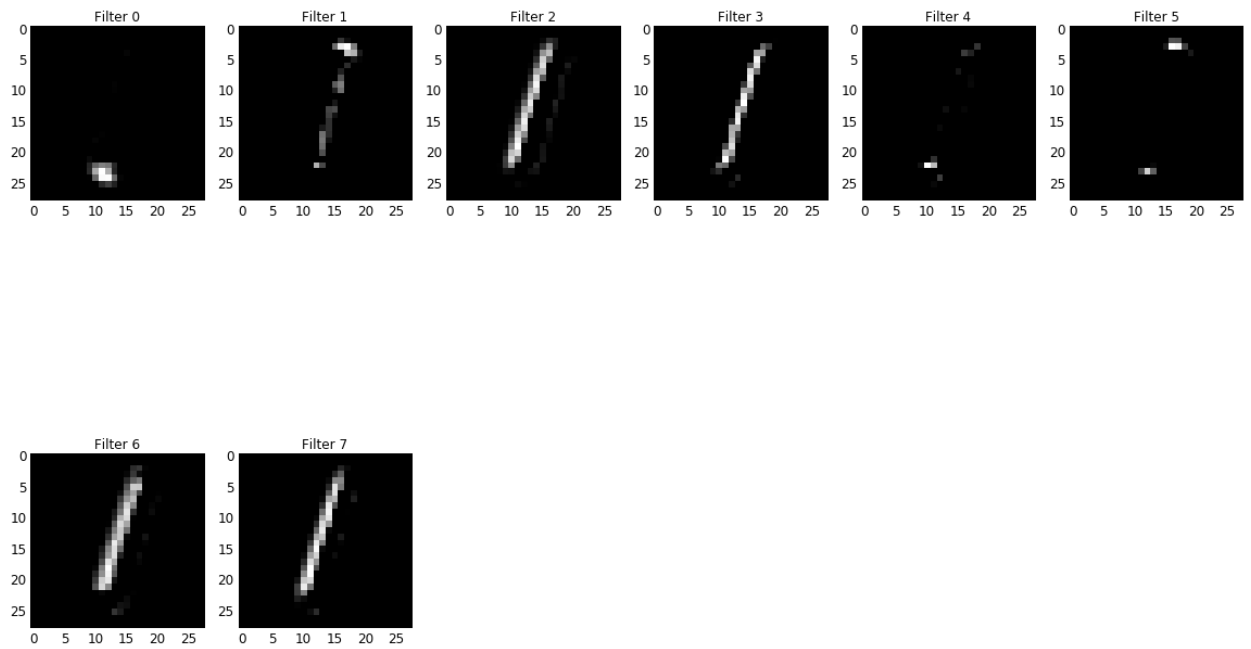


4. Visualized filter maps

a. conv1



b. Conv2



C. Pool

