

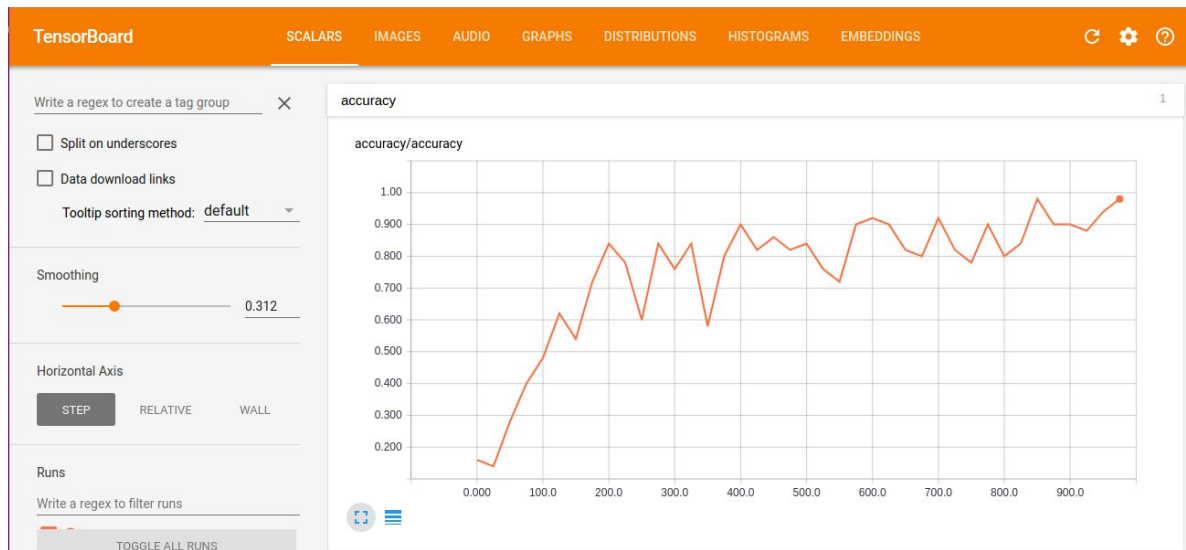
Deep Learning PA_2

Nived Narayanan

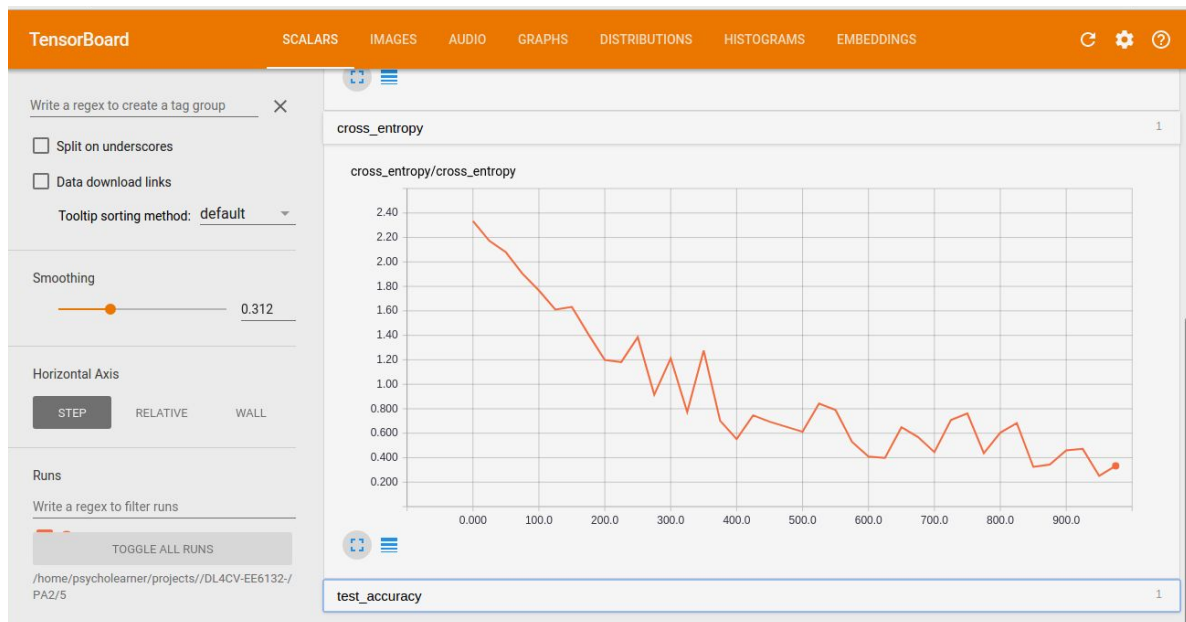
EP14B035

1)

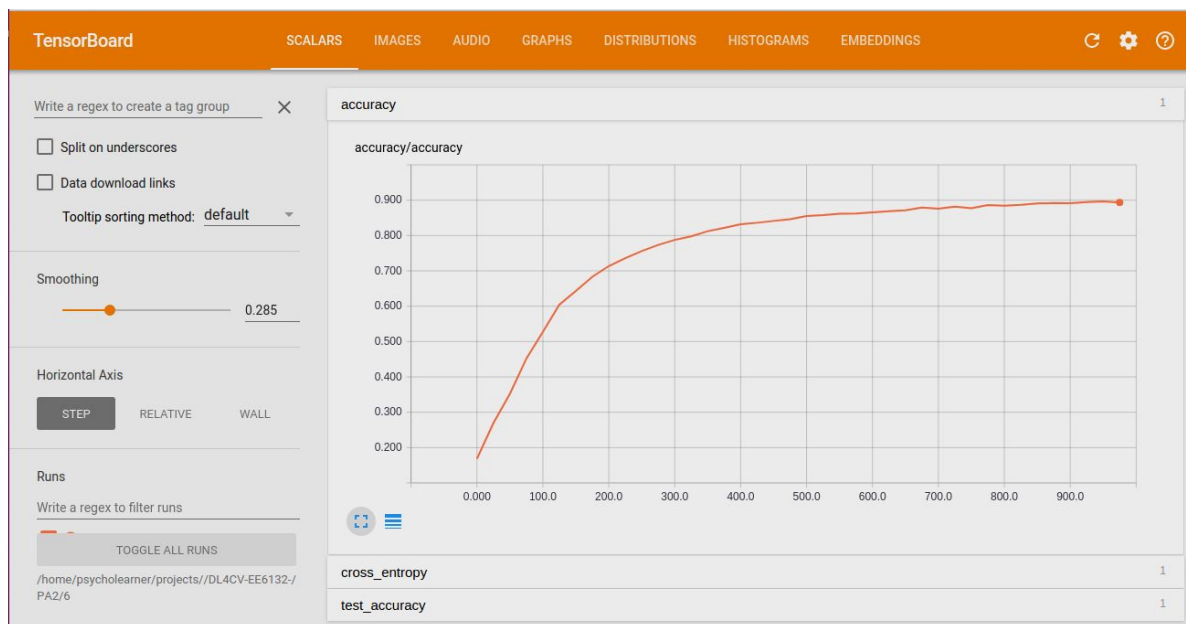
Baseline with one convolutional layer



Training Accuracy



Training Loss

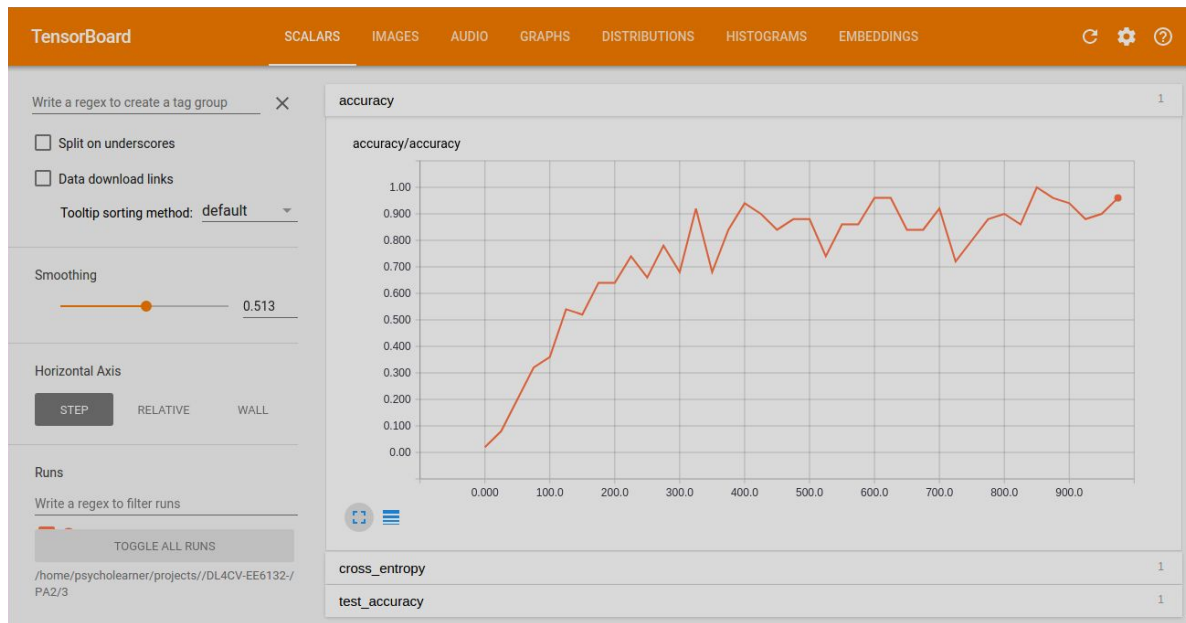


Test Accuracy

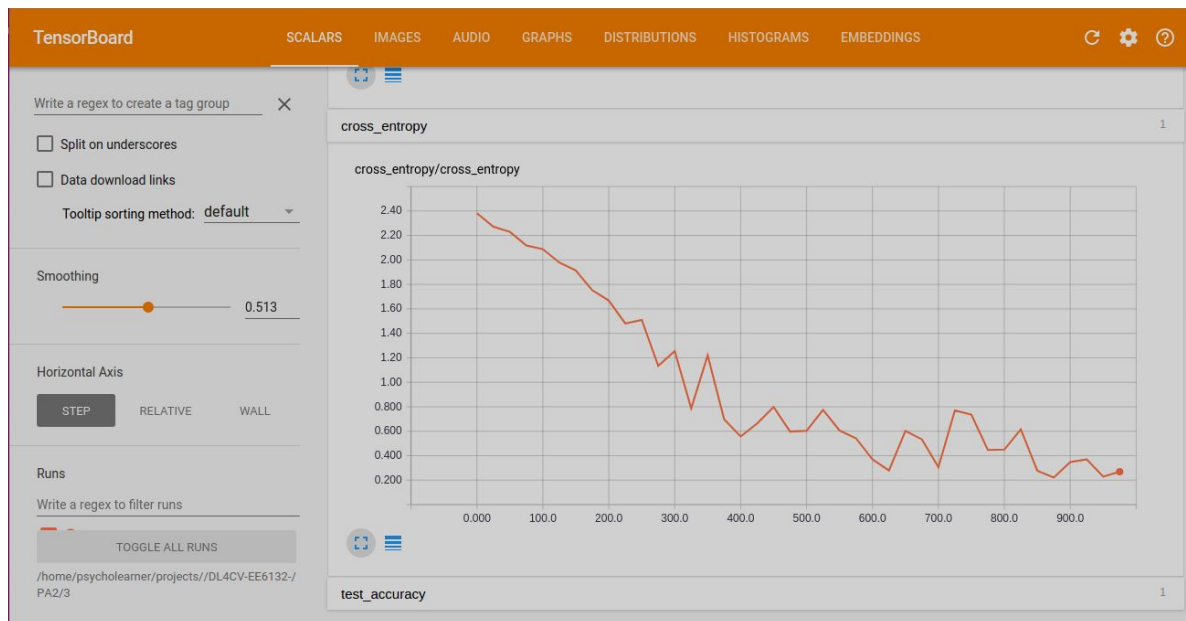


Test Loss

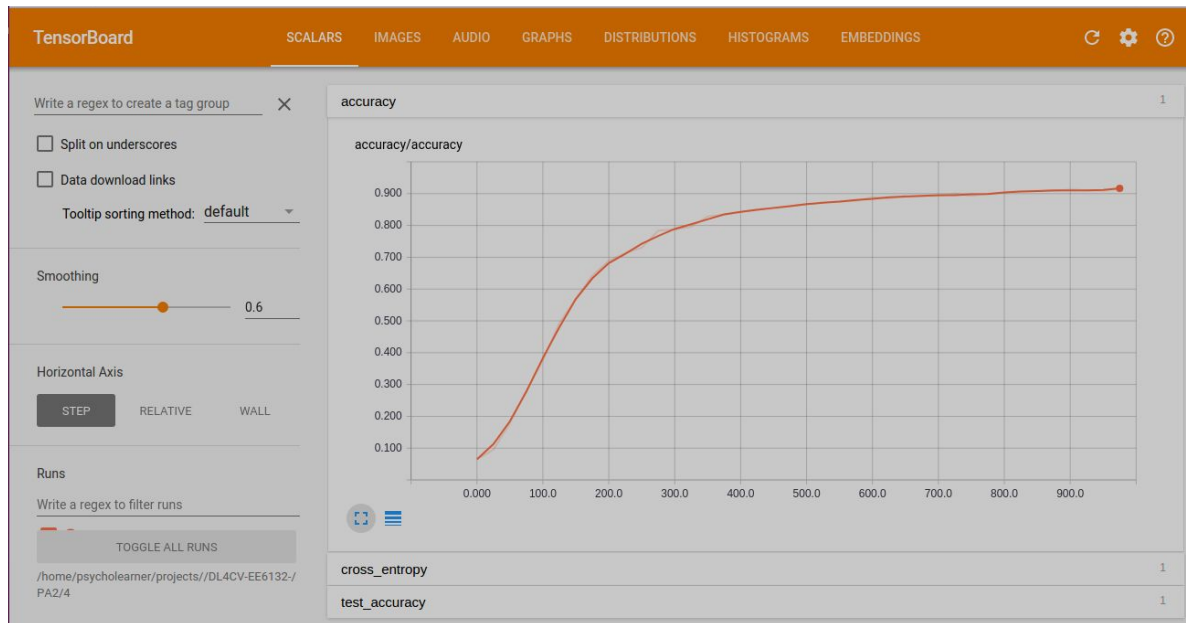
2 convolutional layers



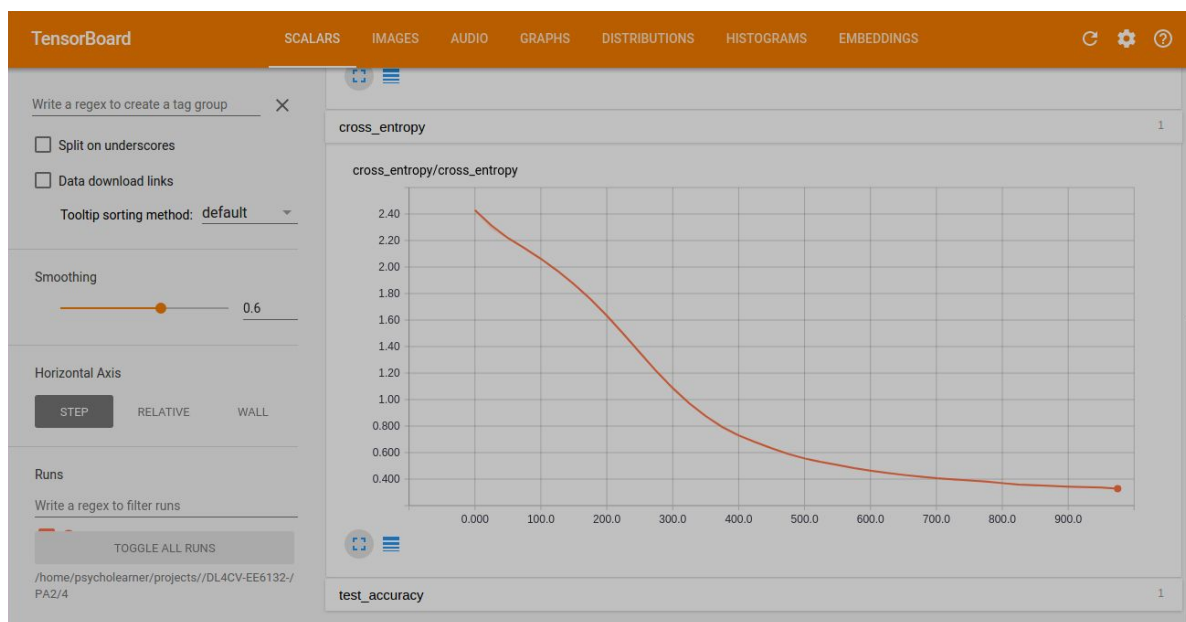
Training Accuracy



Training Loss

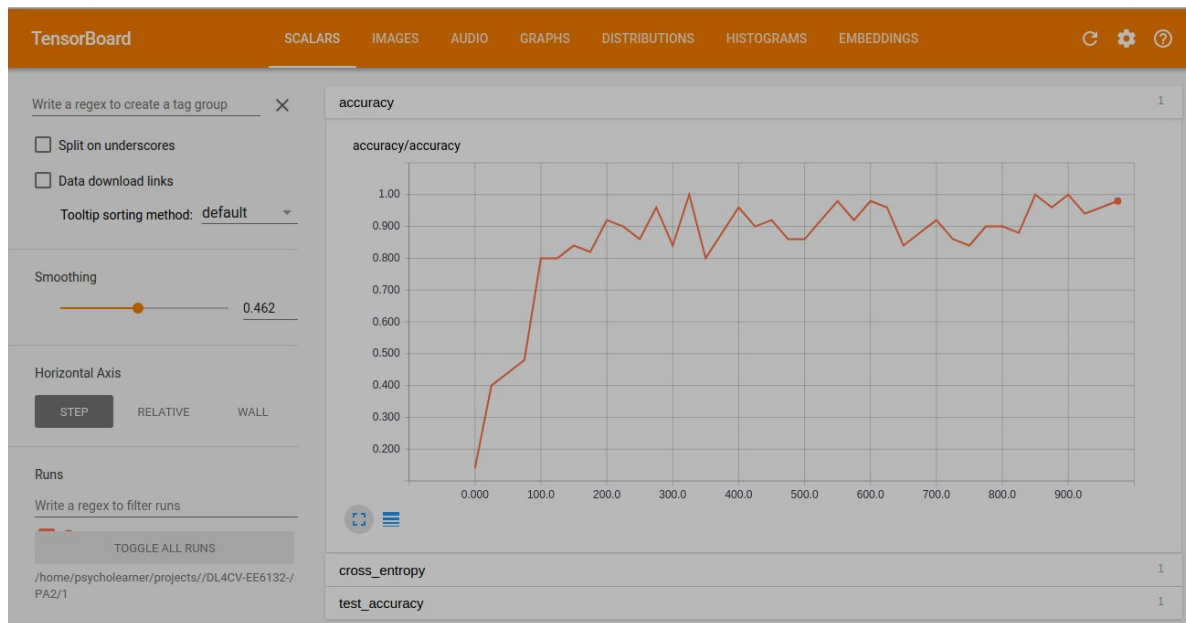


Test Accuracy



Test Loss

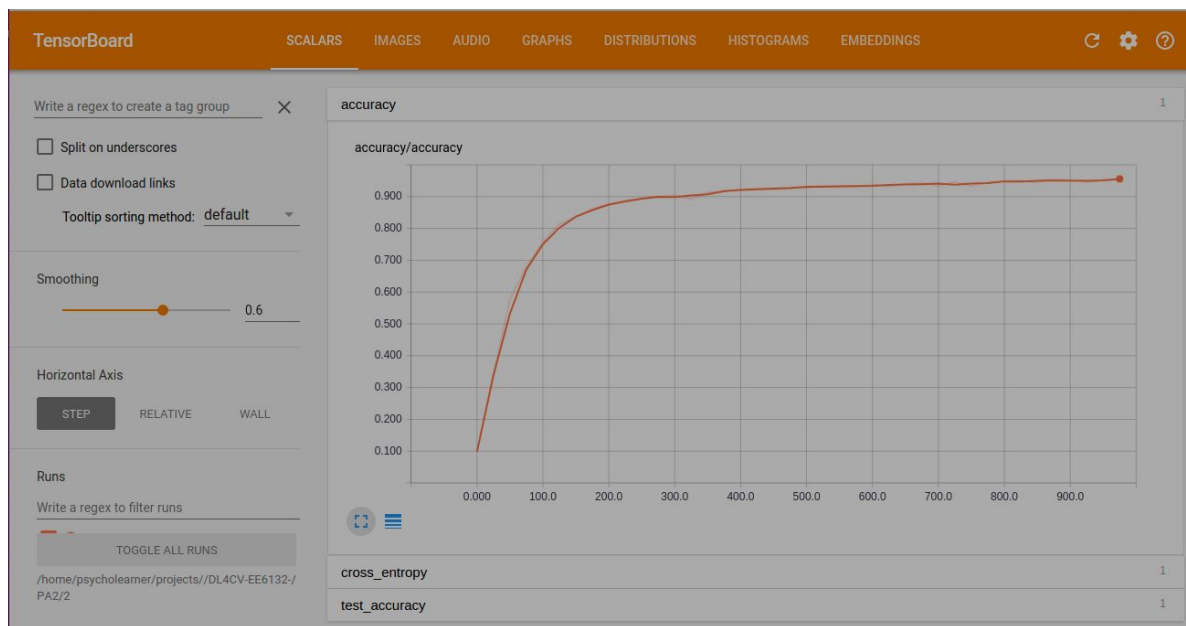
2 convolutional layers + 1 hidden fully connected layer



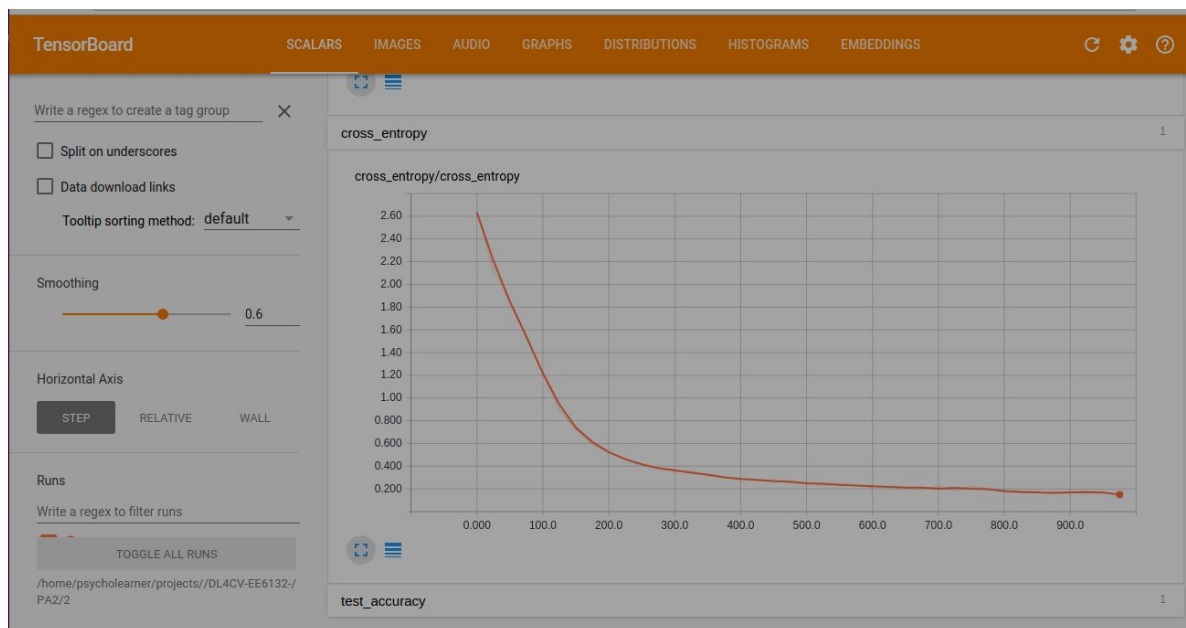
Training Accuracy



Training Loss



Test Accuracy



Test Loss

True label v/s predicted for 5 randomly chosen images from test set (5 possible sets)

1 / 1,7,2

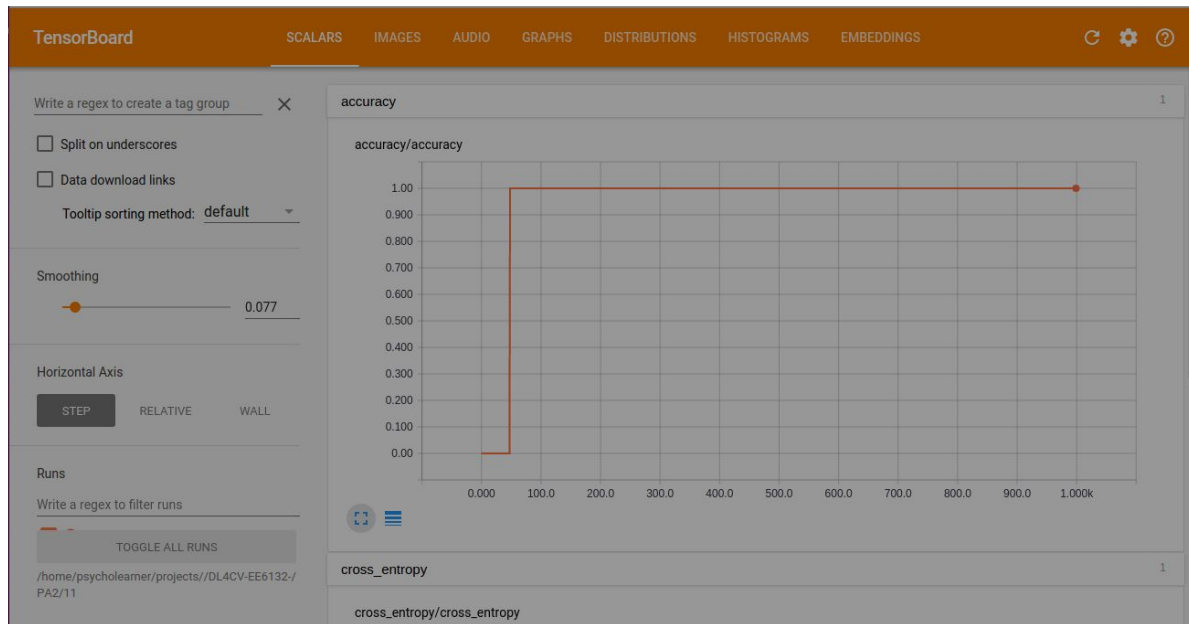
7 / 7,1,9

4 / 4,7,9

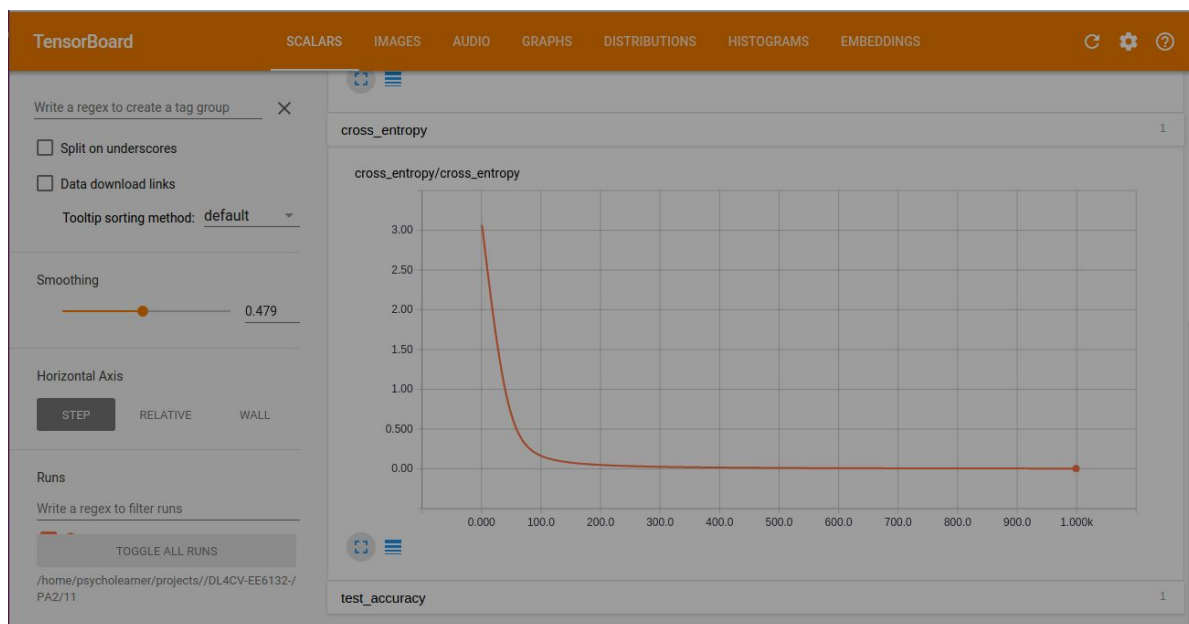
5 / 5,3,8

0 / 0,9,6

2)



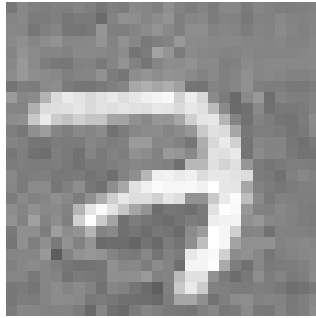
Training Accuracy



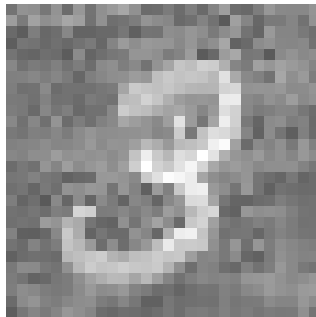
Training Loss

(More graphs are logged in the tensorboard folder)

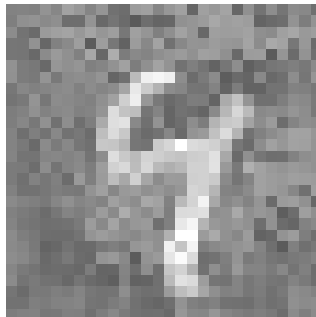
Generated Images with noise along with the corresponding Base Image used



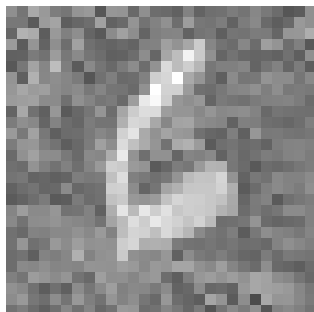
7



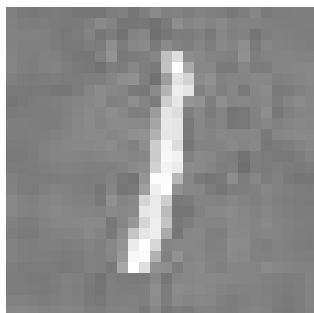
3



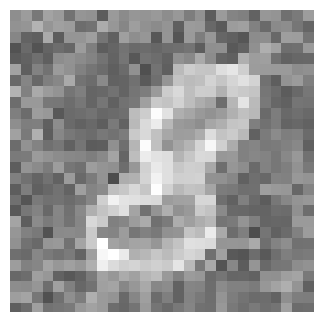
4



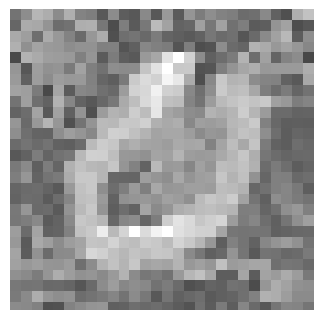
6



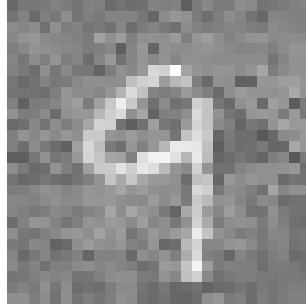
1



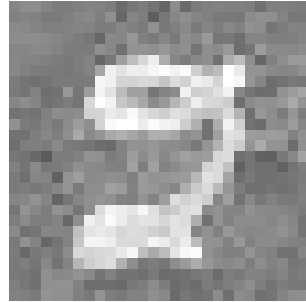
8



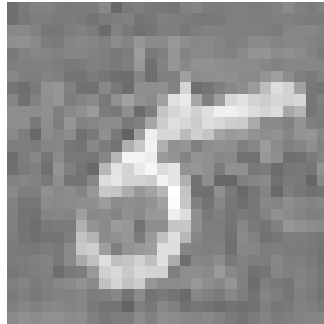
0



9

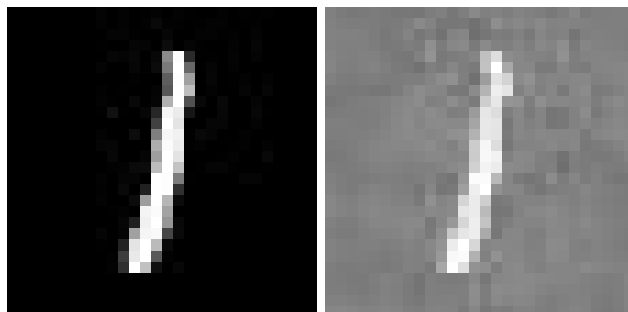


2



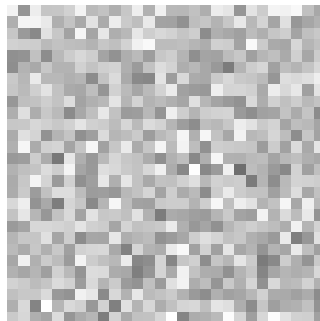
5

Comparison of the real image and generated image

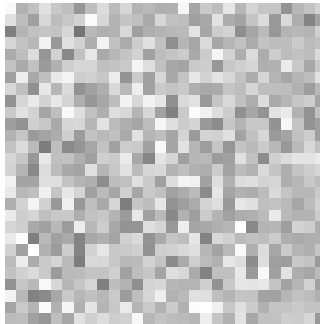


All the images that were generated and trained with the target as some other image were classified in the target image's class when tested.

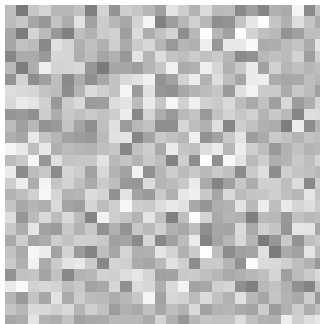
3) Final x init images obtained through maximizing each of the 10 neurons in the output of the neural network.



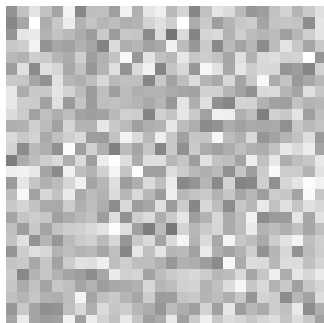
7



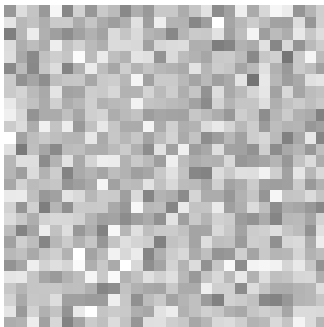
3



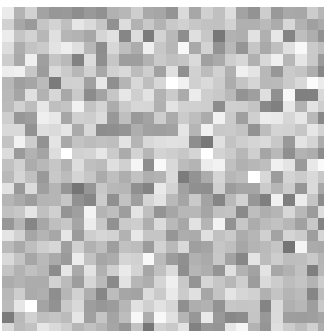
4



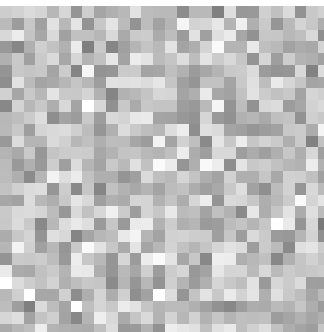
6



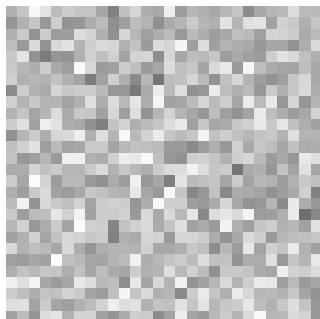
1



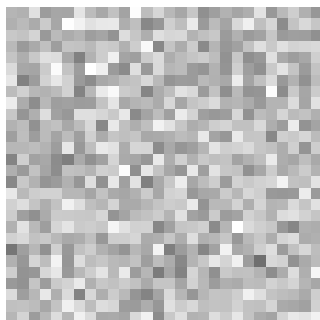
8



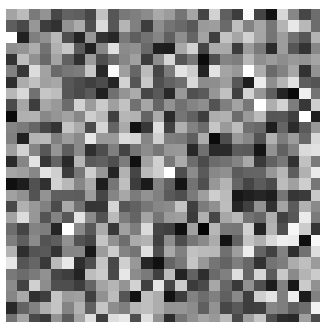
0



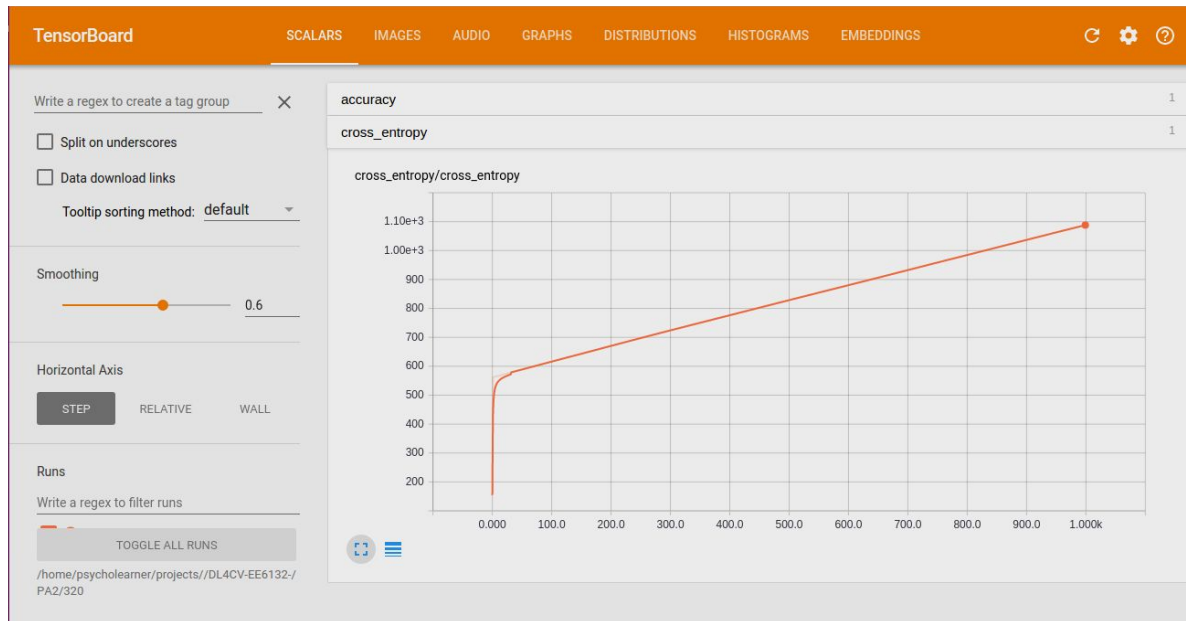
9



2



5



Cost for one sample

(More graphs are logged in the tensorboard folder)