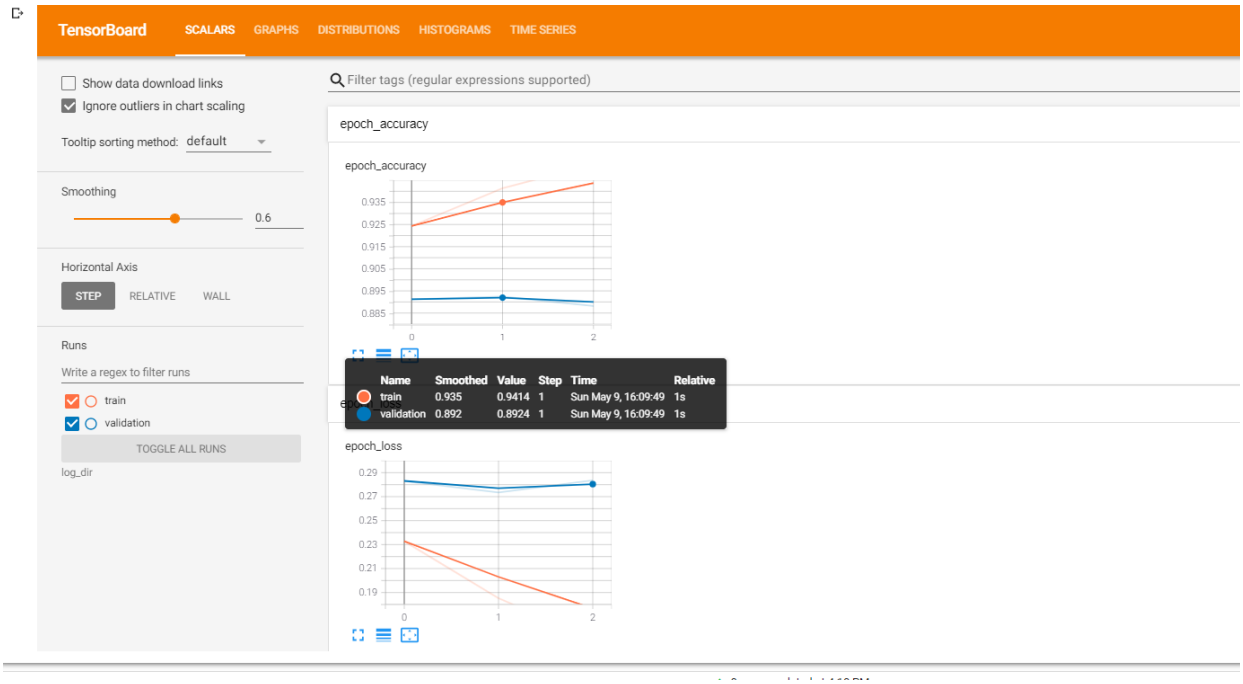
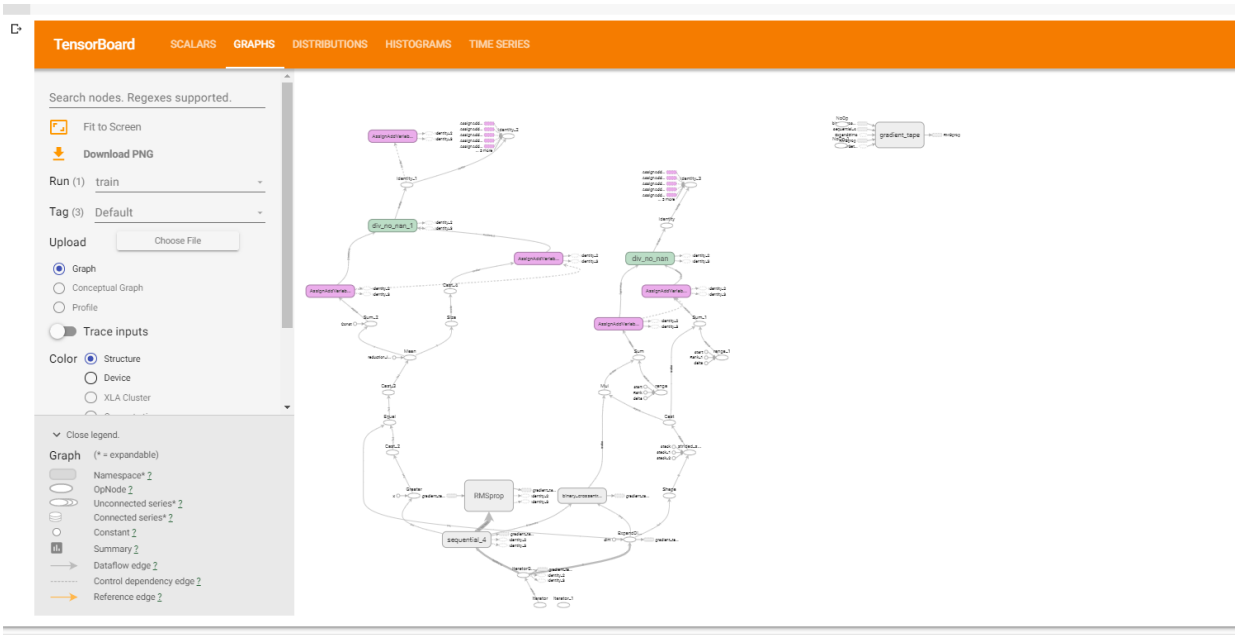
Brandon Palazzo

5/9/21

Advanced ML Assignment 5

For this assignment, I decided to use a basic example from the IMDB dataset for classifying movie reviews as positive or negative. This example was used in our first assignment of the semester. I chose this example because I wanted to be able to easily play with the callback and Tensorboard features on a model I knew very well. For this assignment, I created three callbacks. The first being a Tensorboard callback to use the Tensorboard visualization tool within my file. Second, I added an early stopping callback to stop the iterations once the best validation accuracy was reached. Lastly, I added a model checkpoint callback to save the current weights of the model at different parts during the training phase. The Tensorboard was able to create a large array of visuals of the model including scalars, distributions, histograms, etc. The graphs I was able to make with Tensorboard are print screened to the last couple of pages. The early stopping callback was very helpful for reducing the amount of time it took to run the model, since the best epoch was 3. Not having to run 20-plus epochs saves plenty of time. My accuracy for my original and callback/Tensorboard model were very close, 87.93% and 87.51% respectively. Having the callbacks saved plenty of time by not wasting time on training beyond a certain point of validation accuracy. Tensorboard was helpful when visualizing the layout of my model and seeing how the accuracy trended through each epoch. In the future, I hope to gain more direct insight on adjusting my hyper-parameters through Tensorboard, but for now being able to visualize my model was very helpful.





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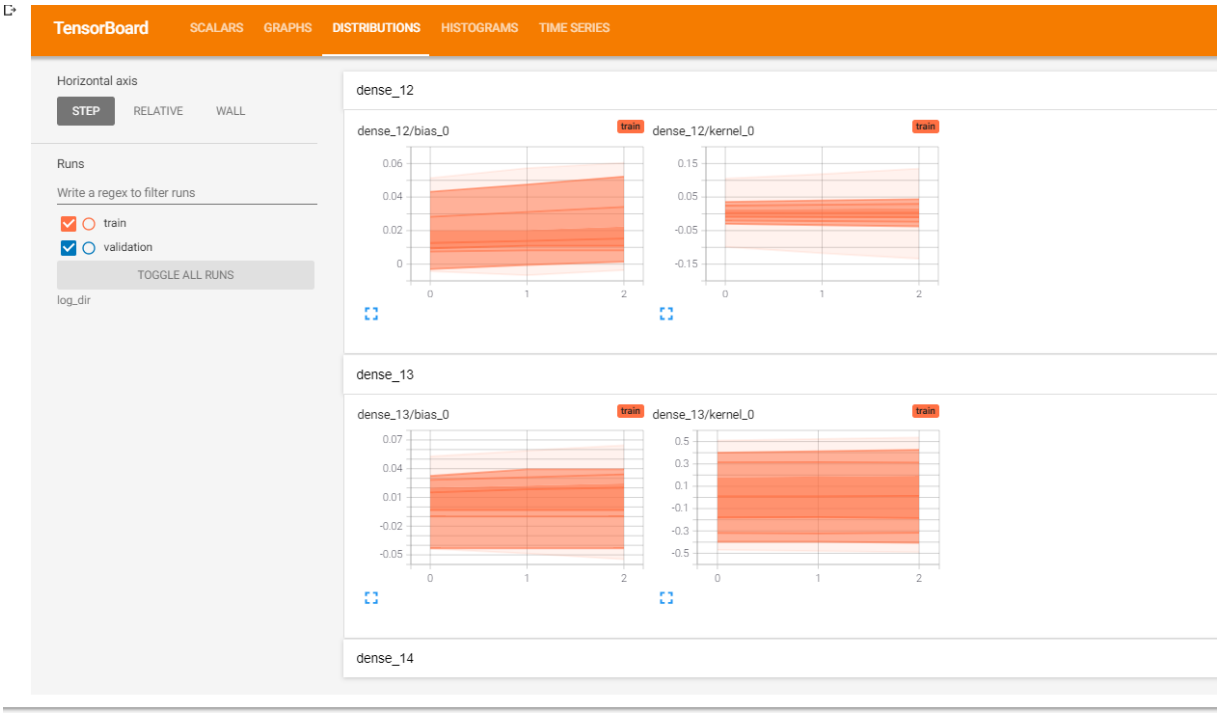

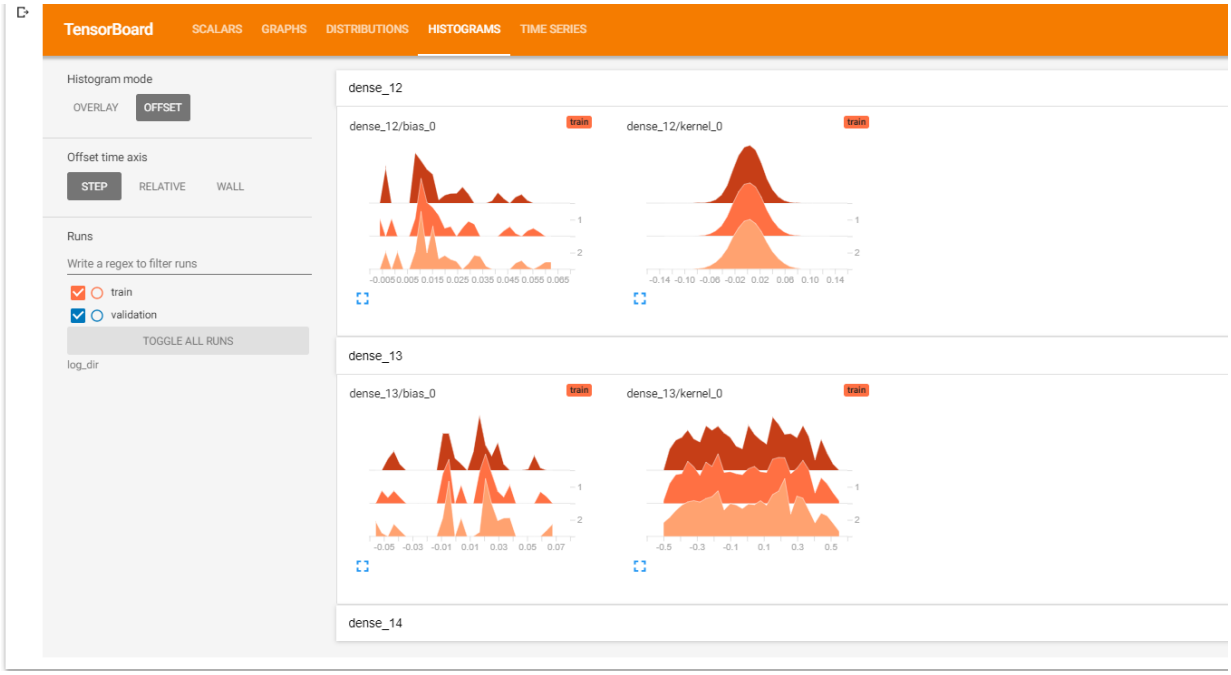
TensorBoard
SCALARS
GRAPHS
DISTRIBUTIONS
HISTOGRAMS
TIME SERIES
Histogram mode
OVERLAY
OFFSET
Offset time axis
STEP
RELATIVE
WALL
Runs
Write a regex to filter runs
train
validation
TOGGLE ALL RUNS
log_dir
dense_12
dense_12/bias_0
train
dense_12/kernel_0
train
dense_13
dense_13/bias_0
train
dense_13/kernel_0
train
dense_14