# REPORT

Completed the setup and collected multiple driving data sets of varying episode lengths, viz. 10K – 25K – 45K frames. I could not complete the whole assignment this time and I've only worked with history length 1 here. Relatively high validation accuracy of about 70-75% was achieved on the dataset with 45K frames, with 1-3 epoch of training. The network performs slightly erratic during testing time and it is so because no data augmentation was done for the datasets used; and that only a single frame was used in the history.

I started with a 2-layer CNN and achieved an accuracy of about 60%, which improved for the same set of hyperparameters (LR 0.01, Minibatches 100, Batch Size 64, Epochs 1) to about 70%+ when run on a CNN of 3 layers (which I am submitting in the code as well).

Best config found for 3-layer CNN.
DATASET – 45K **/** (LR 0.015, Minibatches 250, Batch Size 64, Epochs 15) **/ VAL ACCU** – 75%
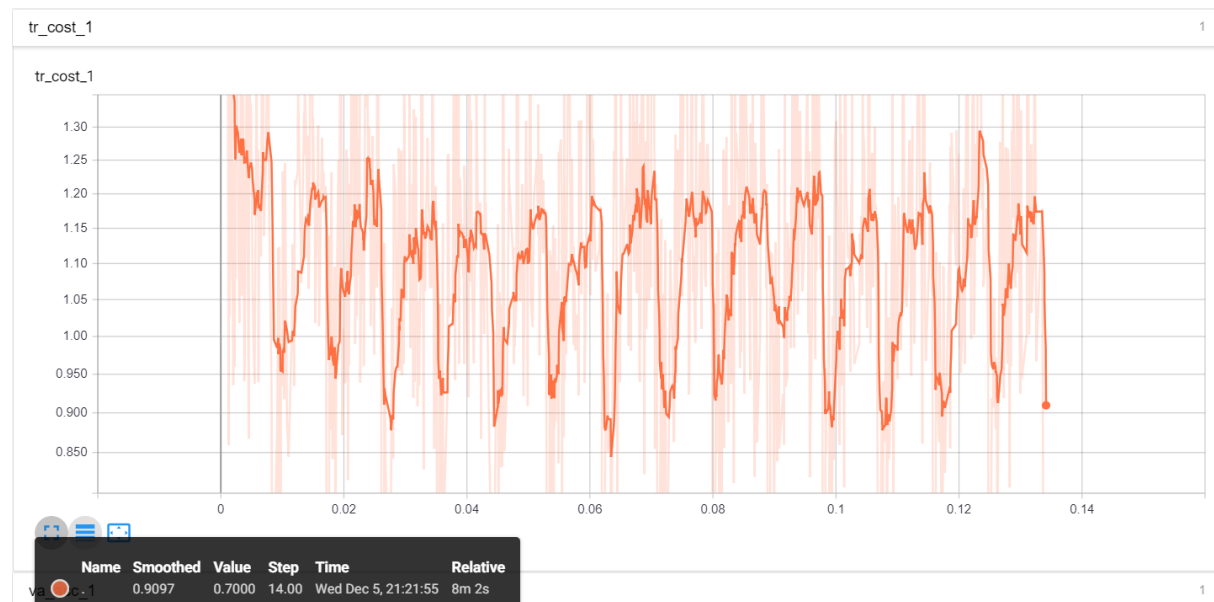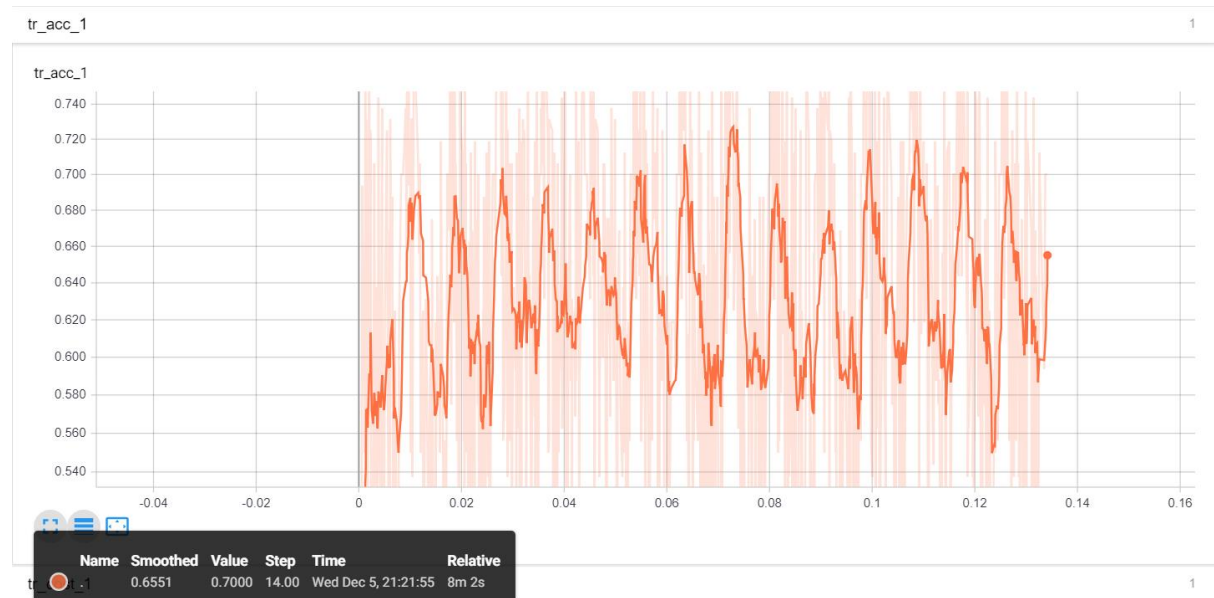
Impact of hyperparameters on the final performance:

- *Number of demonstrations* – Performance increases with an increase in the number of demonstrations.
- *Number of training epochs* – With an increase in the number of training epochs, there is a slight increase in the validation accuracy. However, care must be taken to set an appropriate learning rate as the network tends to overfit quite easily.

For this implementation, the same value of lr must be explicitly passed in both test_agent and train_agent files.