10/29/18 Weekly Report

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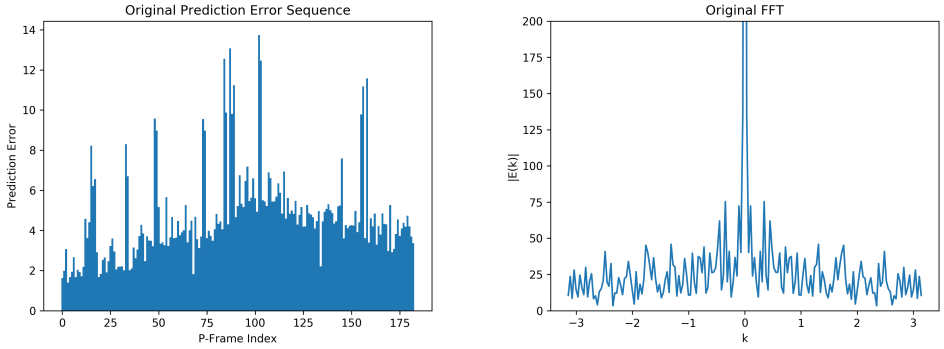
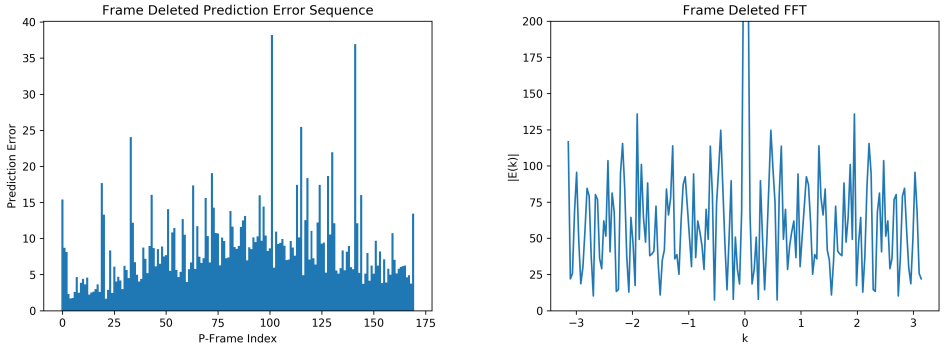
1 What I worked on last week

- I finalized the prediction error sequence program. There is still some work needing to be done on file IO for that though. I have everything else in place.
- I ran a few tests using the two programs that I wrote on a video sample to get graphs of the prediction error sequences and their ffts. I used video from the Kodak Ektra Cellphone camera, that has a fixed GOP size of 30, with one I-Frame and 29 P-Frames. I used my frame deletion program to delete frames 1-15 of the video and reencoded it using the same GOP structure. Please see the following graphs:



(a) Prediction Error Sequence (b) FFT

Figure 1: Original Prediction Error Sequence and FFT



(a) Prediction Error Sequence (b) FFT

Figure 2: Frame Deleted Prediction Error Sequence and FFT

2 Problems I encountered

- Not too many problems. Just that the results of this small test were troubling.

3 What I plan to do this week

- I will use my frame deletion program to generate a small dataset 250-500 videos for sanity checking purposes
- I will fix file IO on the prediction error sequence program, and generate prediction error data for all videos in the dataset.
- I will then generate ROC curves from this dataset to confirm the accuracy of the detector.