15-400 Milestone 4
Spring 2019

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1 Milestone Summary

This milestone was a little different as we have been working on two somewhat separate goals. In particular, one goal has been to verify the validity of our trained weights on HPNet with a pretrained model, and the other goal has been to try to get the dataset used to for the rotating snake illusion to work on PredNet.

2 Current Progress

For this milestone I was able to meet both Professor Lee, as well the Phd, Yimeng Zhang, whose had a significant contribution to HPNet. Taking from his advice, he recommended that it might be best for us to directly replicate the illusion on PredNet itself first, since it also provides a good benchmark and might make the testing on HPNet more intuitive. With his help, we were able to obtain the dataset used (named the disney florida dataset), and train it on an altered version of prednet, which should be able to 'see' the snake illusion. We have done some initial verification, comparing our generated frames to reference frames, and for the most part, it seems we have done it correctly. We plan to continue testing directly with the snake illusion.

With HPNet, I have trained the weights on the KITTI dataset and am currently trying to verify its correctness of the weights. To do so, since we have a pretrained model, I have been conducting prediction loss on both with respect to the reference dataset to verify that both are within some small epsilon of one another.

3 Changes and conclusion

Since the last milestone, I had hoped to see the snake illusion with HPNet. However, by discussing in greater detail with the Phd student, it seems that we needed to currently focus on laying some more groundwork with both Prednet and HPNet. The following goals for the next milestone will be to finish reproducing the results for Prednet, and finish HPNet verification so we can attempt to refactor it to work with the florida dataset.