15-400 Milestone 2
Spring 2019

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1 Milestone Summary

For this current milestone, I have found and debugged most of the dependencies required to train the model. There were some issues with getting the dependencies to work, but for the most part have been worked out. We plan to work on developing our optical flow analysis code while the network is being trained (most likely will need to be trained on different datasets), so that we can conduct our analysis as soon as we have our trained weights

2 Current Progress

Since the last milestone, I have looked through most of HPnet's codebase and begun attempting to train the network. The documentation on the required dependencies were somewhat lacking, and so I have ran into small issues with it. One particular issue was with trying to build the singularity image from a docker image in a local registry. In particular, since singularity needed to be run from a vm instead of locally on macOS, there were several issues trying to establish the docker connection. This was eventually fixed when an online source recommended to upgrade the singularity version.

In addition to the training, I have begun to prepare the postprocessing of the images, namely the optical flow analysis algorithm. In order to detect movement in a still image, optical flow analysis enables approximation of the flow vectors, which will help us determine the existence of computer perceived movement in the snake illusion. The analysis will also be useful for any other movement type illusions.

3 Changes and conclusion

Overall, I thought that the overhead of learning the dependencies was slightly more than I predicted for this milestone. I believe there will be some more similar overhead in the future, specifically related to CUDA/gpu processing, but the next milestones should have much more noticeable progress. In particular, we hope to be able to see movement in the rotating snake in the coming week.