Project Brief - Tianye Wang
Background Reading:
Convolutional Neural Networks (d2l link)
“Visualizing and Understanding Convolutional Networks” Matthew D. Zeiler and Rob Fergus (paper link)
Paper Presentation:
A Neural Algorithm of Artistic Style: Link
Perceptual Losses for Real-Time Style Transfer and Super-Resolution: Link
Implementation:
Optimization method(Done, Both vgg-19 and vgg-16)
Feed-Forward method(Not yet)
Experiment Design:
a: Train using content loss from one layer at a time.(5 Configurations for now, e.g block5_conv3, block5_conv1, block4_conv1,ect)
b: Train using style loss from one layer at a time.(Similar configurations from above test case)
c: Train using different sizes of style image(Working on function that can customize the size of style image, or use part of the image)
d: Using different pooling layers max pooling or average pooling.(No clue how to do that)
e: Instead use all of the layers we only use a selection of layers. (Similar to test case b, overlaps some how)
g: different initialization of the generated image. (random/content/style)
h: Plot the training curve to compare different configurations may help to interoperate the results.
i: Compare between vgg-19 and vgg-16 or maybe other networks like inception_resnet_v2 or inception_v3 or resnet50