Deep Learning Lab Report
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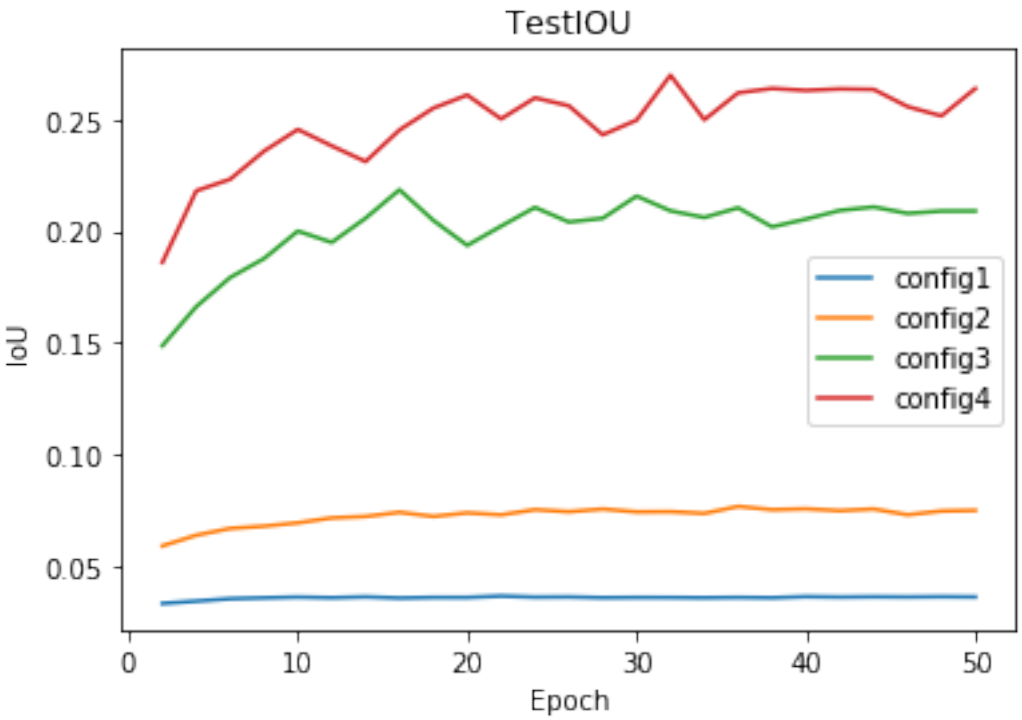
Semantic Segmentation Exercise

In this exercise, four different network architectures for semantic segmentations were implemented, trained, and evaluated. For training, the default hyperparameter settings were used, and all models were trained for 50 epochs (25000 steps). After the training, the models were evaluated using Test_Net.py. The resulting IoU curves are shown below.



The graph shows that, as expected, having more upsampling layers and skip connections led to higher test IoU scores.

The best IoU score for each configurations is as follows:

config 1: 0.0363
config 2: 0.0765
config 3: 0.2185
config 4: 0.2700

Both the plot and the best IoU scores are generated via visualization.ipynb, which can be found in the repository.

The figure below shows qualitative examples of the network prediction with configuration 4 after 50 epochs. The prediction seems reasonable, but more training would improve the quality of the prediction. This is generated by plt_prediction.py, which can also be found in the repository.