

# Experiments with Fully Convolutional Networks

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## 1. Introduction

This is a tech report like the one Redmond et al. wrote last year [1].

## 2. Materials and Methods

Everybody in the computer vision community knows about the seminal paper of Fully Convolutional Networks (FCN) [2], so I don't have to explain too much about it. In brief, FCNs change the last FC layers to convolutional layers, and via transpose convolution it performs the unsampling to match the same size of the original image. For that reason, FCN has been used for semantic segmentation.

## 3. Results



Figure 1. Training of 32s script at 16000 iterations

## References

- [1] J. Redmon and A. Farhadi, "Yolov3: An incremental improvement," *CoRR*, vol. abs/1804.02767, 2018.
- [2] J. Long, E. Shelhamer, and T. Darrell, "Fully convolutional networks for semantic segmentation," in *2015 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, IEEE, June 2015.

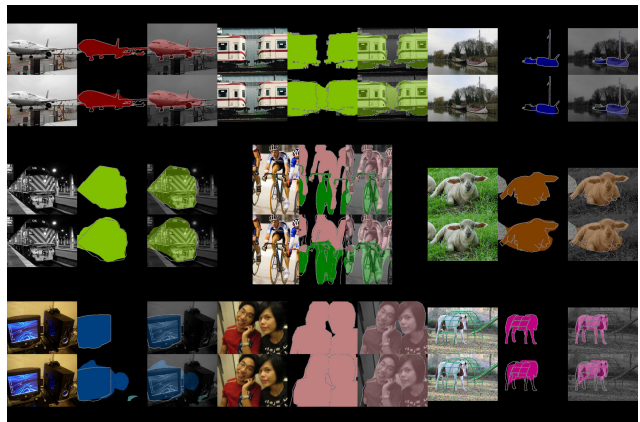


Figure 2. Training of 32s script at 32000 iterations



Figure 3. Training of 32s script at 44000 iterations



Figure 4. Training of 16s script from 32s at 4000 iterations



Figure 5. Training of 16s script from 32s at 8000 iterations

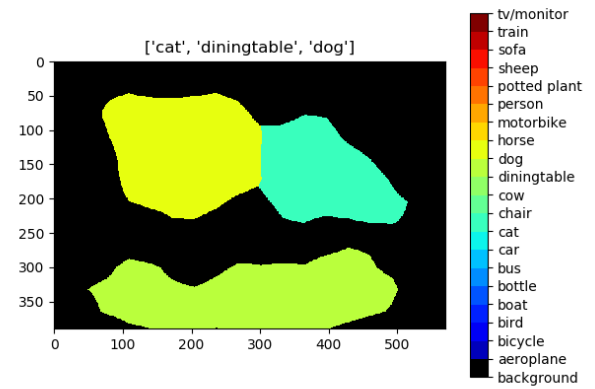


Figure 7. Label of the test image

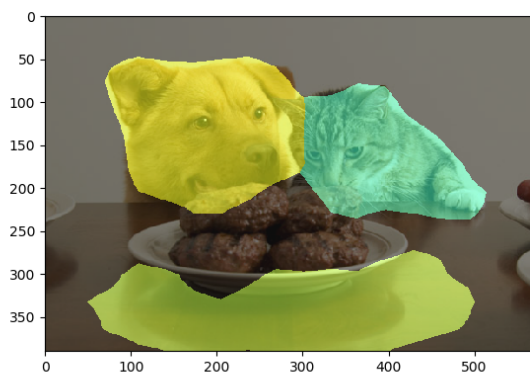


Figure 6. Test in an image with 32s trained model