Semantic Segmentation using a Fully Convolutional Network

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Abstract

In the following paper we'll show the qualitative and quatitative results of using a fully convolutional neural network for semantic segmentation on the Pascal Dataset.

1. Results

All networks were trained for 3 epochs and the net architecture was left unchanged.

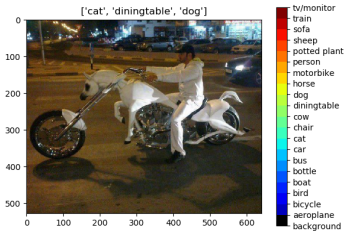

Figure 1. Original Image

1.1. 32s using VGG pretrained weights (fine tuning)

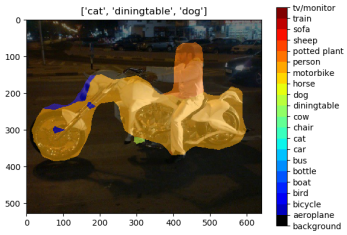

Figure 2. Segmentation using the model 32s

1.2. 32s from scratch

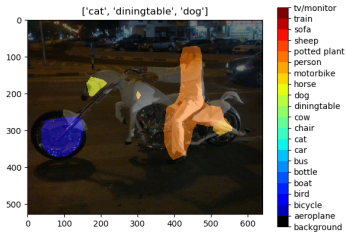

Figure 3. Segmentation using the mode 32 from scratch

1.3. 16s from scratch

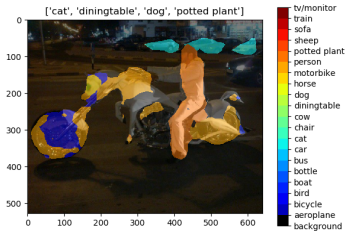

Figure 4. Segmentation using the mode 16 scratch

2. Analysis

It's clear that the most reliable method from this experiments was the one that used pretrained weights. This is due to it basically having "knowledge" about the problem before training started.