**Learning through perturbations**

**Goal:** We aim to learn an object segmentation model without any human annotation (i.e., without supervision)

**Motivation:** Object segmentation currently requires expensive human annotation.

**Challenge:** How do we avoid reconstructing degenerate representations?

**Proposed solution:** We can expose degenerate solutions by applying a small random shift to the masked foreground.

**Generator results**

StyleGAN trained on 100k images for 4 categories from LSUN object dataset: Car, Horse, Chair, Bird. Minimum mask set to 25%, 20%, 15%, 15% respectively.

**Ablation study**

Objective: to show the importance of random shifts and other parameters.

Experiments on LSUN Car.

The method works also on a dataset with two object categories and should improve as GANs improve.