

Assignment 3

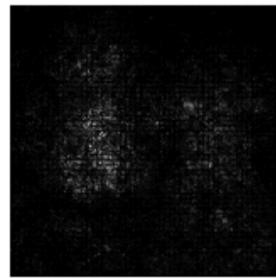
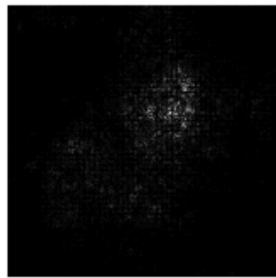
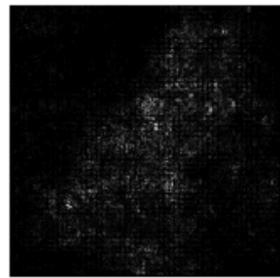
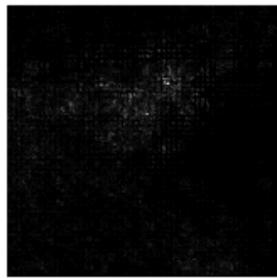
Your name: Jieun Seong

Your GTID: jseong8

Visualization

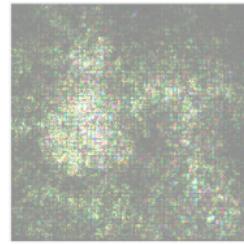
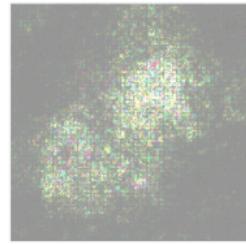
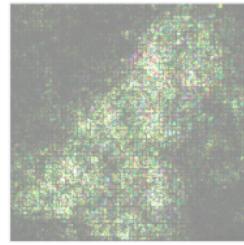
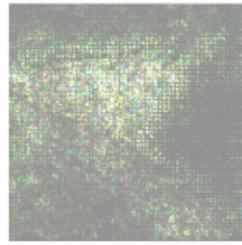
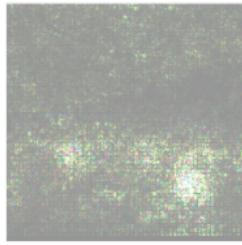
Saliency Map (1 point)

- Include your saliency map here



Saliency Map Captum (1 point)

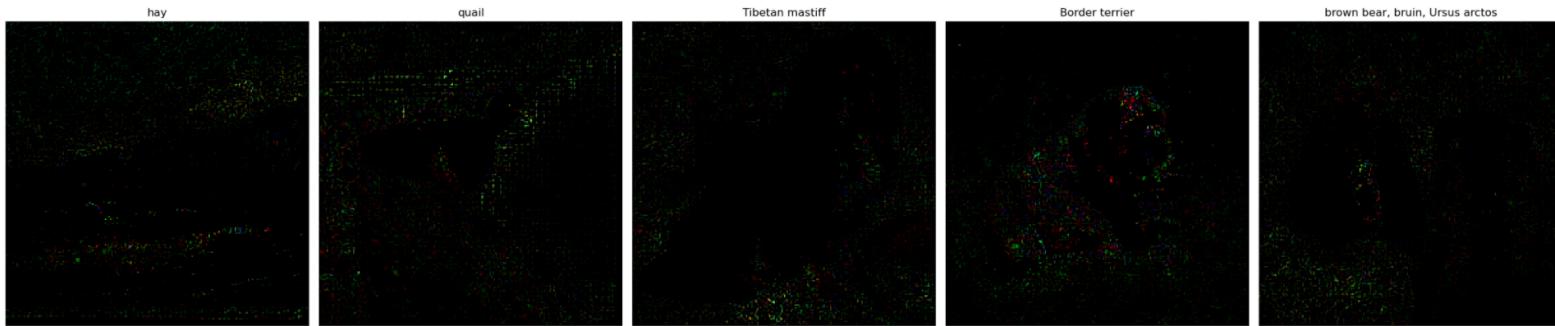
- Include your saliency map from Captum here



Saliency

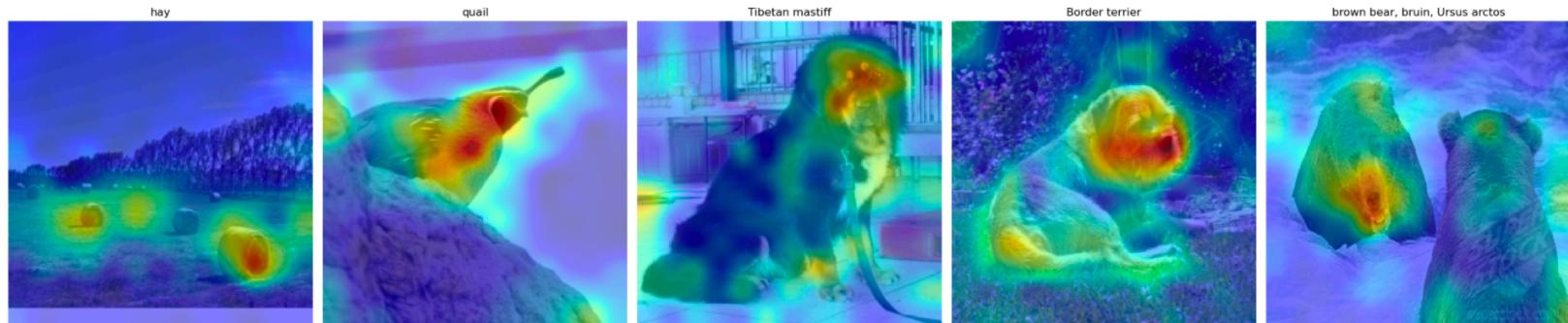
Guided Backprop (1 point)

- Include your visualization of Guided Backprop here



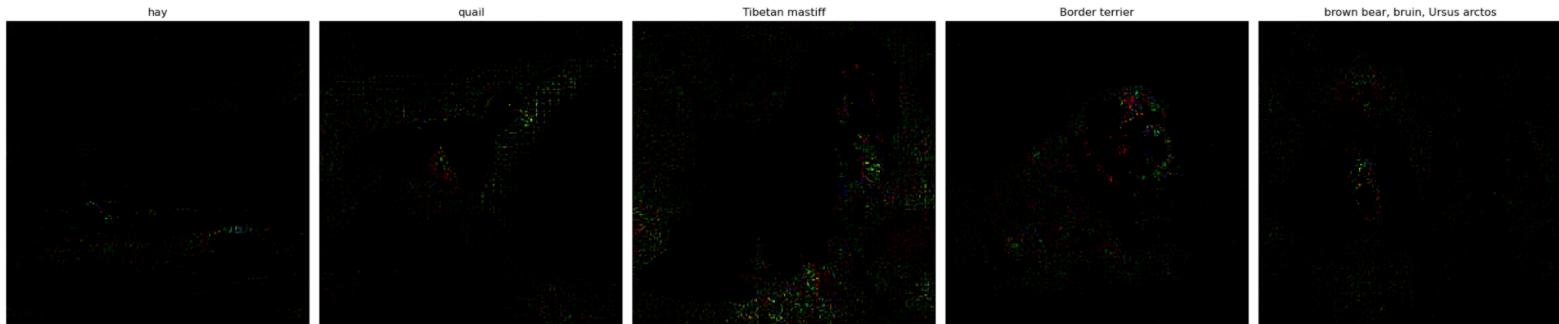
GradCam (1 point)

- Include your visualization of GradCam here



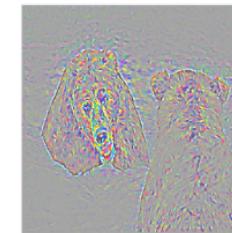
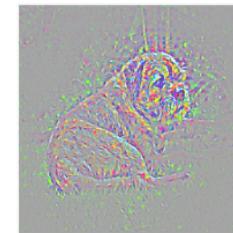
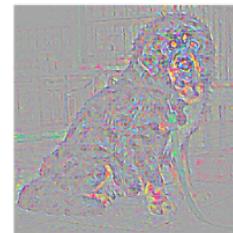
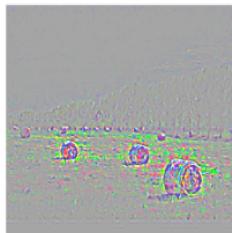
Guided GradCam (1 point)

- Include your visualization of Guided GradCam here

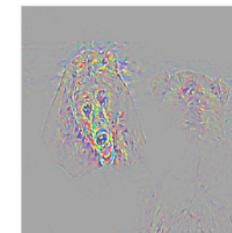
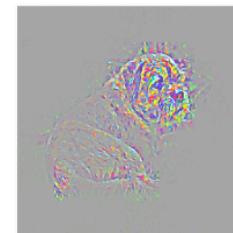
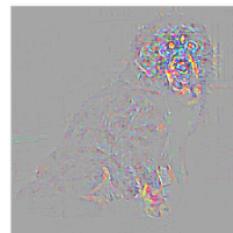
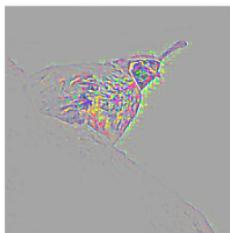
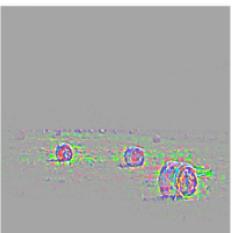


Guided Backprop + GradCam (Captum) (1 point)

- Include your visualization of Guided Backprop and Guided Gradcam from Captum here



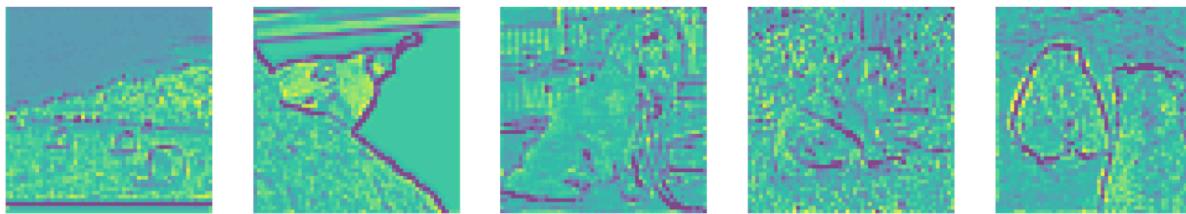
GuidedBackprop



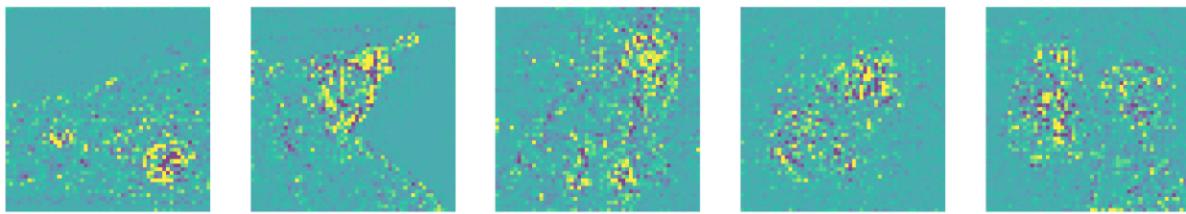
GuidedGradCam

Layers and neurons using Captum (1 point)

- Visualization of layers and neurons using Captum here (Note: You are only expected to submit the visualization results from the given layer in the instruction (i.e. layer = model.features[3]))



LayerGradCam



LayerConductance

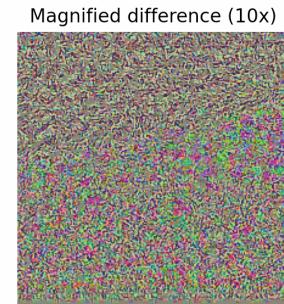
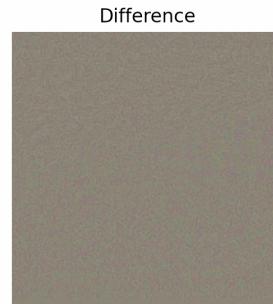
What do saliency map and Gradcaml tell you? (1 point)

- Answer: Both methods show us which areas in images contribute more than others when classifying them. So the highlighted areas in an image are the ones that contain more information about the corresponding label and thus more important.

Fooling Image (1 point)

- Include the fooling image here

learning_rate = 0.1



Fooling Image Insights (1 point)

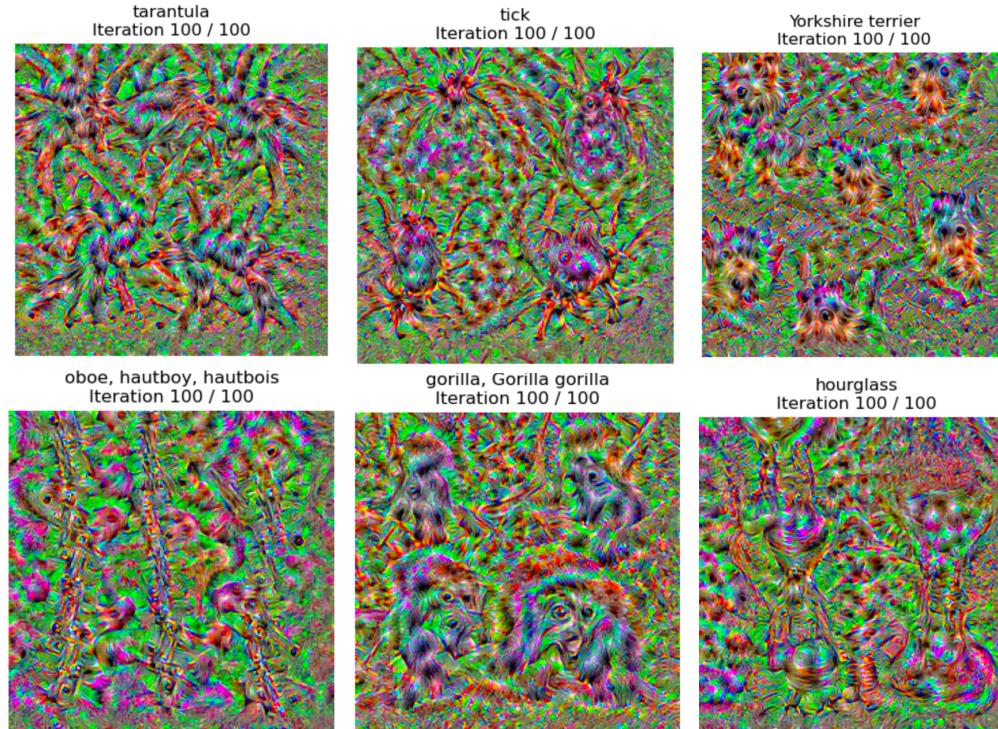
What insights do you get from fooling images:

- Answer: Even though, to humans, there are no differences between the original image and the modified one, the slight changes in the pixels were able to fool the model. We can guess that some noise in the training data can decrease the performance of the model.

Class Visualization (3 points)

- Include class visualizations here(Note: You are expected to include visualizations for all six classes as shown in the sample outputs section. Target classes for class visualization can be changed in the file `class_visualization.py`)

`learning_rate = 0.3`
`l2_reg = 1e-3`



Style Transfer

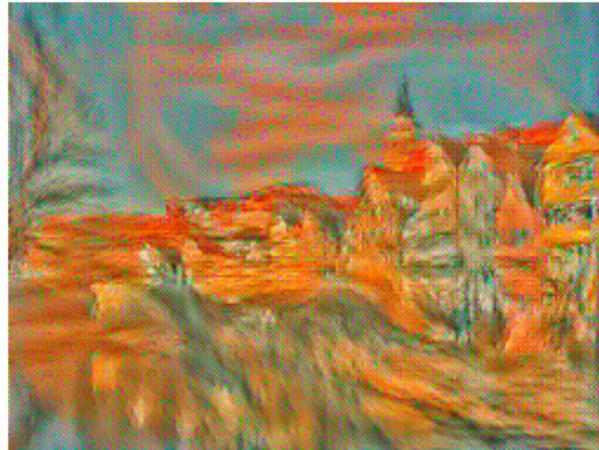
Composition VII + Tübingen (1 point)

- Include both original images and the transferred image



Scream + Tubingen (1 point)

- Include both original images and the transferred image



Starry Night + Tubingen (1 point)

- Include both original images and the transferred image



- Be sure to append the jupyter notebook i.e. \$root/test_style_transfer.ipynb for testing sections of the style transfer implementation to this report.