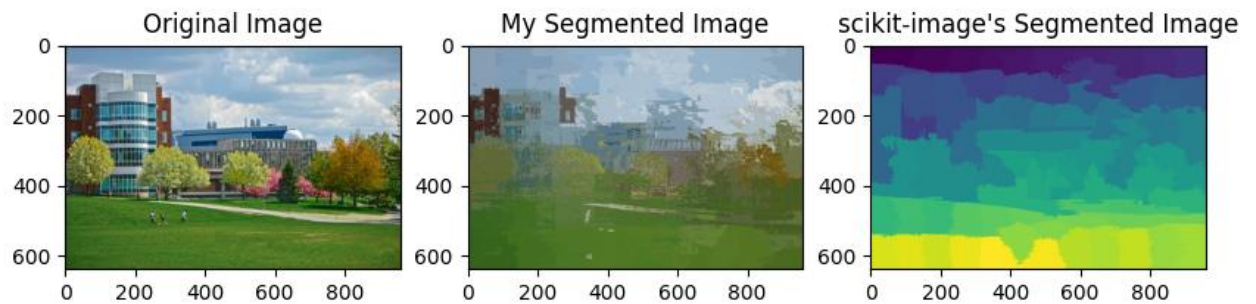


Assignment3 Report

Task 1 : Simple Linear Iterative Clustering



pros:



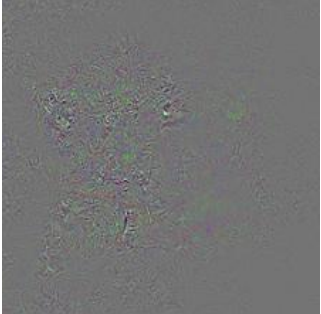

- My implementation reserves better characteristic of original image , like the shape of building and road.
- My implementation can customize iteration times and connectivity threshold to fit different clustering jobs.

cons:




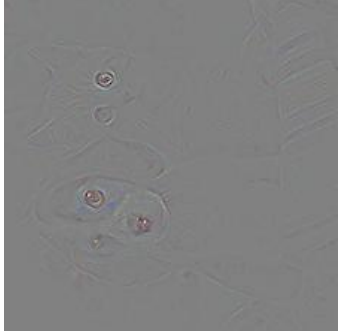
- scikit-image's SLIC is much faster than mine, though I am not sure how many epochs it iterated. It uses mask support to speed up computation.
- scikit-image's SLIC uses gradient colors to denote clusters while my implementation uses average colors, which makes its output looks neater than mine.
- scikit-image's SLIC did a good job in connectivity enforcement. It's difficult for my implementaion to choose a proper threshold to do this job.

Task 2 : Visual Attention in Deep Neural Networks

Demo1

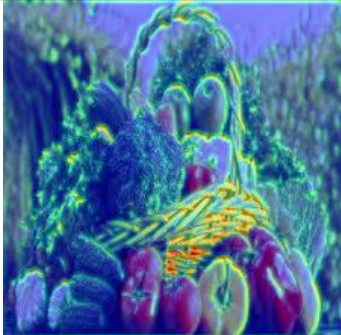
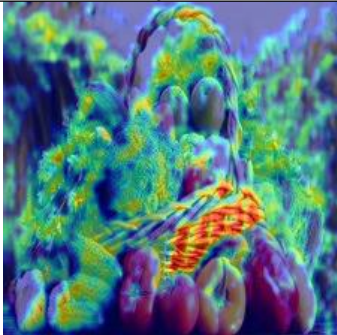



Class: English_foxhound	
Original Image	Grad-CAM
	
Vanilla backpropagation	Guided GradCAM
	

rotate 90 degrees

Class: Chihuahua	
Original Image	Grad-CAM
	
Vanilla backpropagation	Guided GradCAM
	

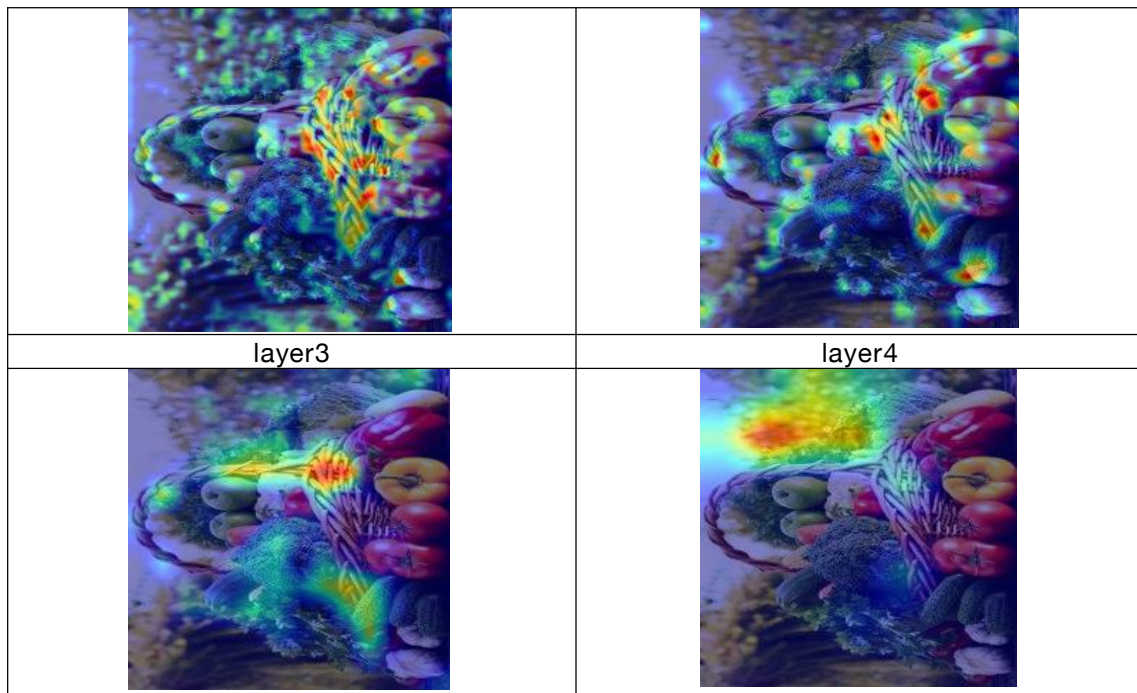
After rotation, class changed, focus is almost the same

Demo2

Original Image	relu
	
layer1	layer2
	
layer3	layer4
	

rotate 90 degrees

Original Image	relu
	
layer1	layer2



After rotation, focus area changed a lot