Homework 3

The goal is to implement a deep-learning model to remove noises from images. (deadline: 11/16 23:59 PM)

1. Download the cat-dog image files as you did in the last class. You can use just one folder or all folders. Make noisy images by adding noises to the clear cat-dog images. Any noise type (ex. Gaussian, Poisson) is fine. Split the image data set into training, validation and test sets.

2. Implement your deep-learning model inputting a noisy image. Use clear images as ground-truths during training.

3. Test your model. Pick some test image samples, and plot noisy image, predicted image (output image) and ground-truth image for each sample.

4. Define or select a proper metric (ex. SNR or MSE) to validate the performance of your model. For example, if you pick the SNR, you need to compare SNR of input image and SNR of output image. You can make just a number, table or graph to show your quantitative results.

** I will give you bonus points to someone who will achieve the best performance and clearly validate your performance.