NAME:

blind motion deblurring of a single photograph based on Generative Adversarial Nets

(GAN に基づく 1 枚の写真のブラインド モーションブラー除去)

Brief thinking:

I want to delve into an end-to-end neural network structure for stronger feature expression and spatial correlation learning. treat deblurring as a special case of such image-to-image translation. The learning is based on a GAN and the content noise.

And now I have three directions which I want to try.

1. WGAN-GP using Wasserstein distance and Lipschitz restrict, as well as gradient penalty. But In addition to the Lipschitz regularization conditions, are there any other regularized prior conditions that can theoretically guarantee generalization? how about other measures, what if Banach space. Also, if we use gradient penalty to satisfy Wasserstein distance, BN will can not be used for regularization. Others can be compared. Besides, the gradient has an upper bound, which is only a sufficient condition for the Lipschitz constraint. Why not add the Lipschitz constraint to the penalty in the form of interpolation.

2. I want to try to structure a multi-component loss function

3. If all of those are failed, I plan to tune Hyperparameter. Like use GN\FN instead of BN. Add ResBlock, deconvolution, NIN or etc. layers to the generator. Add sparse coding could be another option.