

Week 10 paper summary

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Summary

Isola et al. [1] presented pix2pix as a general purpose solution to image to image translation for many different tasks using conditional GANs. Their method not only learns the mapping but learns loss function during the mapping too. Unlike regular GANs, conditional GANs maps from a noise plus and observed image to the output. The generator is tasked to both fool the discriminator and be close to the ground truth output. Their model architecture is consisted of several conv-batchnorm-relu layers and the generator is in the form of UNets with skip connections. For discriminator, they use a Patch-GAN model that focuses on local patches of the image to see if each patch is fake or real and then averaging all the results. For optimization they use Adam with first momentum decay of 0.5. Their results show that their method is very promising in different tasks. They showed it using different metrics such as perceptual studies.

References

- [1] Phillip Isola, Jun-Yan Zhu, Tinghui Zhou, and Alexei A Efros. Image-to-image translation with conditional adversarial networks. In *Proceedings of the IEEE conference on computer vision and pattern recognition*, pages 1125–1134, 2017.