Deep generative model/Advanced computer vision Quiz 3

Please submit answers no later than 5/26 5:00 PM.

You can use either English or Korean for answers.

* 필수항목

1. Student ID *

2. Student Name *

3. [2 points] What is the difference between pix2pixHD algorithm compared to the pix2pix? (Please describe more than 2 distinct differences)

① Coarse-to-fine generator
② Feature matching loss
③ Multi-scale discriminator
④ Boundary map input

4. [2 points] What is the checkerboard artifacts? and instead of Conv2DTranspose, which layers could be used to constitute the GAN decoder, to relieve the checkerboard artifacts?

uneven overlap happen at de-conv. op.

Use Upsampling +2D Conv instead of Transposed Conv. op.

5. [1 point] Please select the sentence that correctly describes the perceptual loss.

한 개의 타원형만 표시합니다.

- [ ] It could be used only when the generator has the hierarchical structure.
- [x] We need to involve an additional pre-trained network to calculate the loss.
- [ ] Without the loss, generative adversarial network could not be trained.
- [ ] It is calculated based on the brightness difference between the original and generated images.

6. [2 points] What do you think is the key contribution of StarGAN, compared to the pix2pix?

Multi-domain translation.

7. [2 points] What do you think is the merit of having the attention mechanism in image translation method as in the paper linked: [https://openaccess.thecvf.com/content_ECCV_2018/papers/Gang_Zhang_Generative_Adversarial_Network_ECCV_2018_paper.pdf]

Prevent artifacts in unmanipulated regions.

8. [1 point] Please describe any 1 interesting application using GAN or adversarial loss that you learned during the class or while reading papers.

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