

UNFOLDING THE ARTWORK'S REALITY VIA UNSUPERVISED DOMAIN ADAPTATION

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Abstract

In the present Generative Adversarial Networks have performed remarkable results in image translation and generation. Transfer learning technique called unsupervised domain adaptation has also attained remarkable results when it comes to semantic segmentation tasks. However, unsupervised domain adaptation techniques have recently worked with GAN models very well. Latent space vectors are interpreted as inputs for the generator to generate images. We also compare image translation and generative gan works and unsupervised domain adaptation existing literature.

Based on the analysis, we choose the appropriate existing works to complete the research. We choose Art2Real as the existing model and unsupervised domain adaptation as the model optimization technique for improving the existing model to get a good outcome. The results of the improved Art2Real model allowed us to get a high accuracy and quality realistic images of the same artistic images.

The research on the image translation techniques allowed us to translate artistic images into realistic photos using improved image generative models. While there are other image generative and translation models, they aren't successful to generate quality realistic images of the artistic images. The author reviewed existing works on image generative models specially for the art works to realistic images works and also the models which used unsupervised domain adaptation.

Keywords: Unsupervised Domain Adaptation; Generative Adversarial Networks.