StyleDomain: Efficient and Lightweight Parameterizations of StyleGAN

Generative AI is one of the latest famous technologies. It uses for image generation, style transfer, video generation and etc.

The problem

How to adapt GAN model to a specific domain with few samples (paintings by artists, pop art, graffiti)?

The method

Affine+ and AffineLight parametrization method

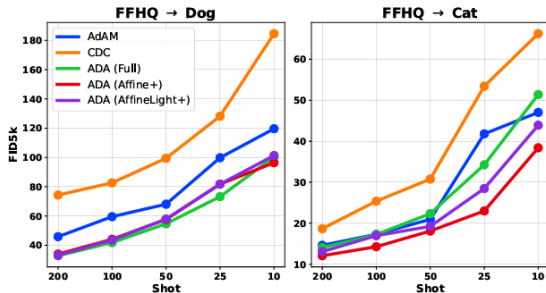## The solution

1) Combination several affine layers and one convolutional block from the synthesis network on domain adaptation

2) Affine and Affine+ parametrization methods is efficient for dissimilar domains

Affine parametrization result

Example applies of five parametrization methods for domains: cat and dog.

Fid (Fréchet inception distance) metric use to defined model quality.

Parametrization family Affine shows the better results than others