

ST-GAN: Spatial Transformer Generative Adversarial Networks for Image Compositing Chen-Hsuan Lin¹ Ersin Yumer²³ Oliver Wang² Eli Shechtman² Simon Lucey¹³ ¹Carnegie Mellon University ²Adobe Research ³Argo Al



We seek realistic image generation through low-dimensional geometric transformations.



ST-GAN generates **geometric corrections** that sequentially warp composite images towards the natural image manifold.

Why Spatial Transformer Networks? **High-dimensional** per-pixel image generation **Low-dimensional** geometric transformations















Initial composite of foreground image is defined by warp \mathbf{p}_0 .





Results

Indoor objects (rendered)

composite



ST-GAN output



 \mathbf{p}_{N}

Real indoor photos (high-resolution)



Glasses on faces (unpaired)

Initial composit

> **ST-GAN** output





New generators can be sequentially trained!

Check out our paper and code for more details and discussions!



Code available!



tps://github.com enhsuanlin/spatia transformer-GAN