

GANHOPPER: Multi-Hop GAN for Unsupervised Image-to-Image Translation

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Appendix

We present extra results to validate our approach. The datasets used for these extra experiments are:

- 13,336 doll faces obtained from the Flickr100m dataset [2];
- Human faces obtained from the aligned version of the CelebFaces Attribute dataset [1];
- Plastic, wood, metal, and stone datasets used in DualGAN [3]. Each category has 101 images;

Figure 10 shows how our approach compares to the baselines on the challenging human-doll faces translation. GANHOPPER successfully translates the image from one domain to another while still preserving salient features in a similar manner to other challenging translations featured in Section 4.

Finally, in Figures 11 and 12 we show the results of training GANHOPPER on smaller datasets. Our method is able to smoothly translate textures from one domain to another while still preserving the overall geometry of the input image.

References

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2. Ni, K., Pearce, R.A., Boakye, K., Essen, B.V., Borth, D., Chen, B., Wang, E.X.: Large-scale deep learning on the YFCC100M dataset. CoRR **abs/1502.03409** (2015), <http://arxiv.org/abs/1502.03409>
3. Yi, Z., Zhang, H., Tan, P., Gong, M.: DualGAN: Unsupervised dual learning for image-to-image translation. In: Proc. of ICCV (2017)

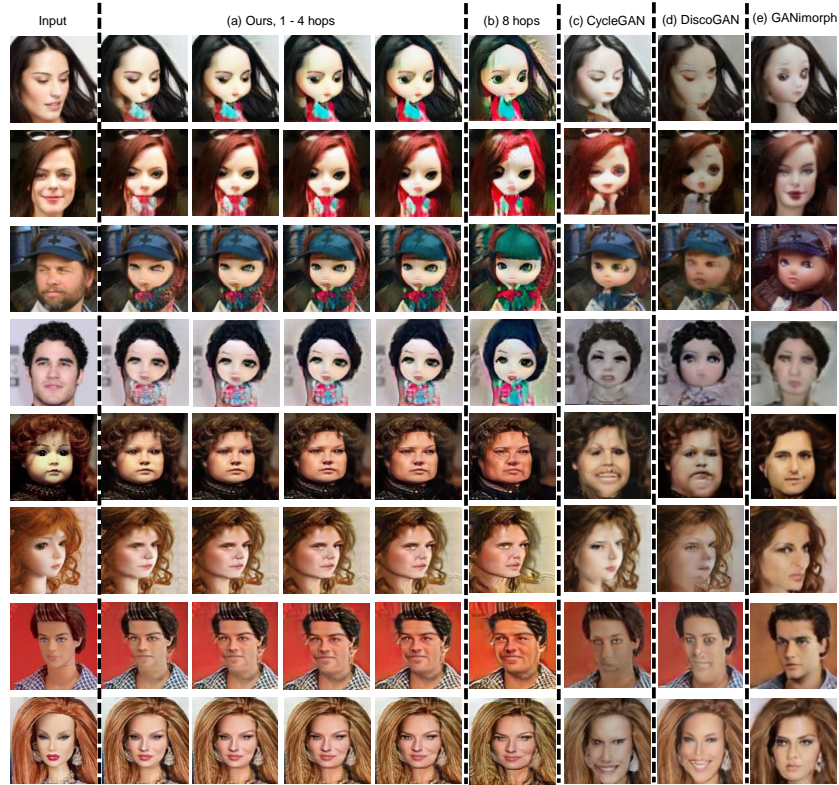


Fig. 10. Comparing different translation methods on the human-doll faces dataset. We trained GANHOPPER with four hops using default hyperparameters; (a) shows the result of hopping 1 to 4 times from the input and (b) shows the result of 8 hops from the input. We compare our results to (c) CycleGAN, (d) DiscoGAN, and (e) GANimorph.

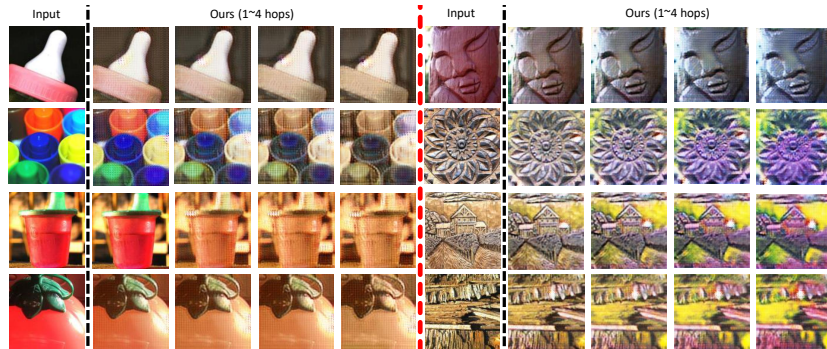


Fig. 11. Translating plastic to wood (left) and wood to plastic (right). GANHOPPER was trained with four hops and default hyperparameters.

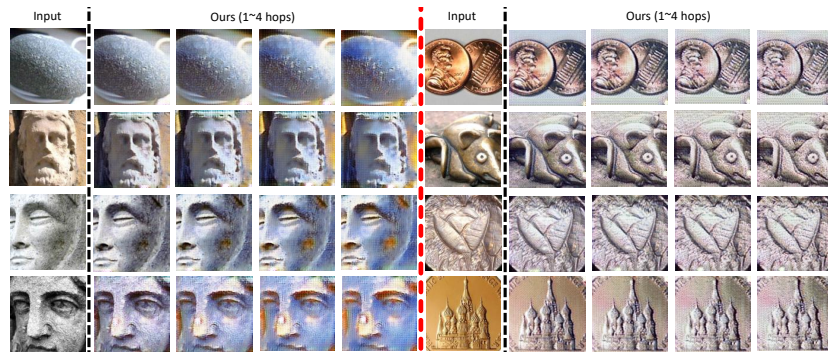


Fig. 12. Translating stone to metal (left) and metal to stone (right). GANHOPPER was trained with four hops and default hyperparameters.