

# Supplementary Material for “LatentCLR: A Contrastive Learning Approach for Unsupervised Discovery of Interpretable Directions”

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**Additional Results.** We present additional results with BigGAN and StyleGAN2 on diverse set of classes and datasets. Note that for BigGAN experiments, all directions are trained only for a single class, Bulbul, and transferred to other classes. In other words, the same direction for zoom learned in Bulbul class also works well under various other categories such as Goose, Trenchcoat and so on.

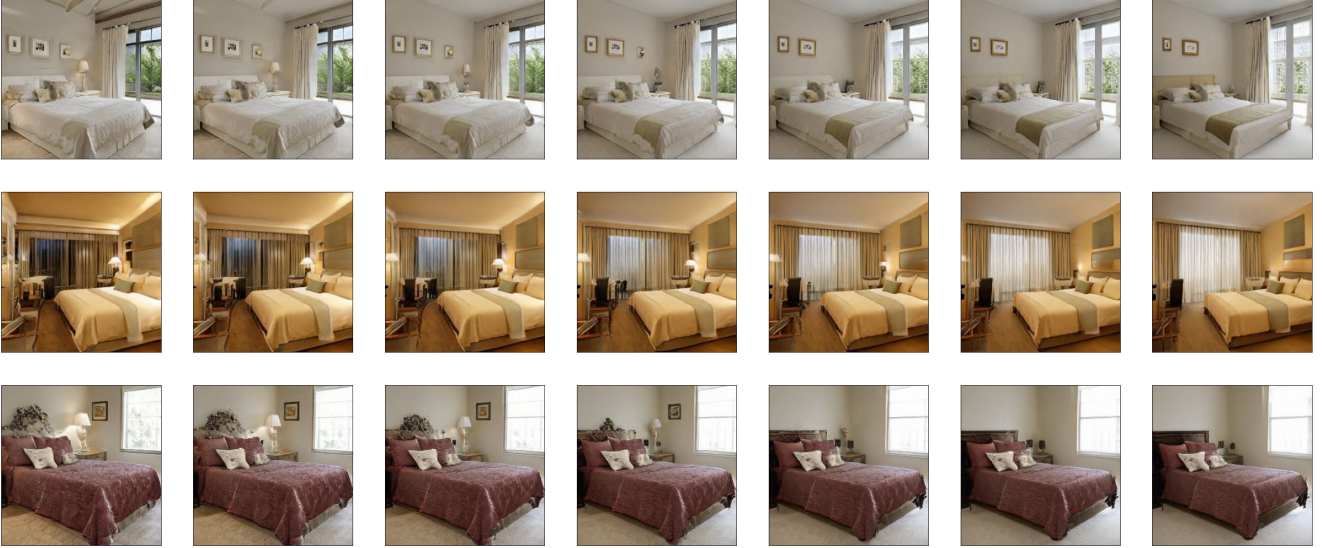


Figure 1: StyleGAN2 Bedrooms - Add/Turn on lamps

<sup>†</sup>Equal contribution. Author ordering determined by a coin flip.

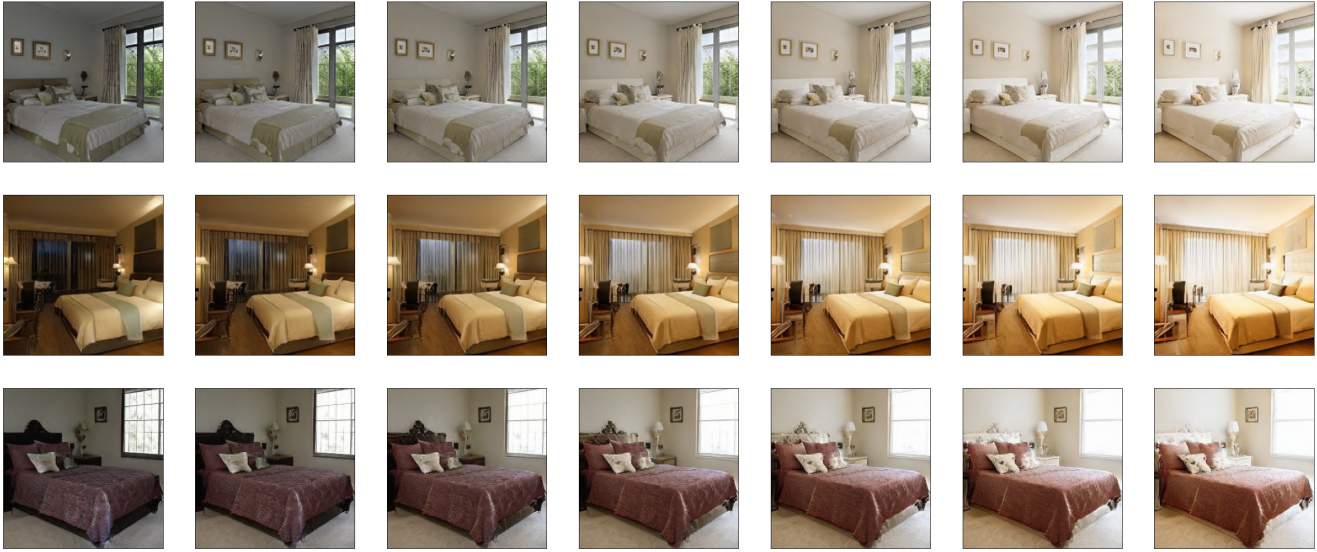


Figure 2: StyleGAN2 Bedrooms - Add sunlight

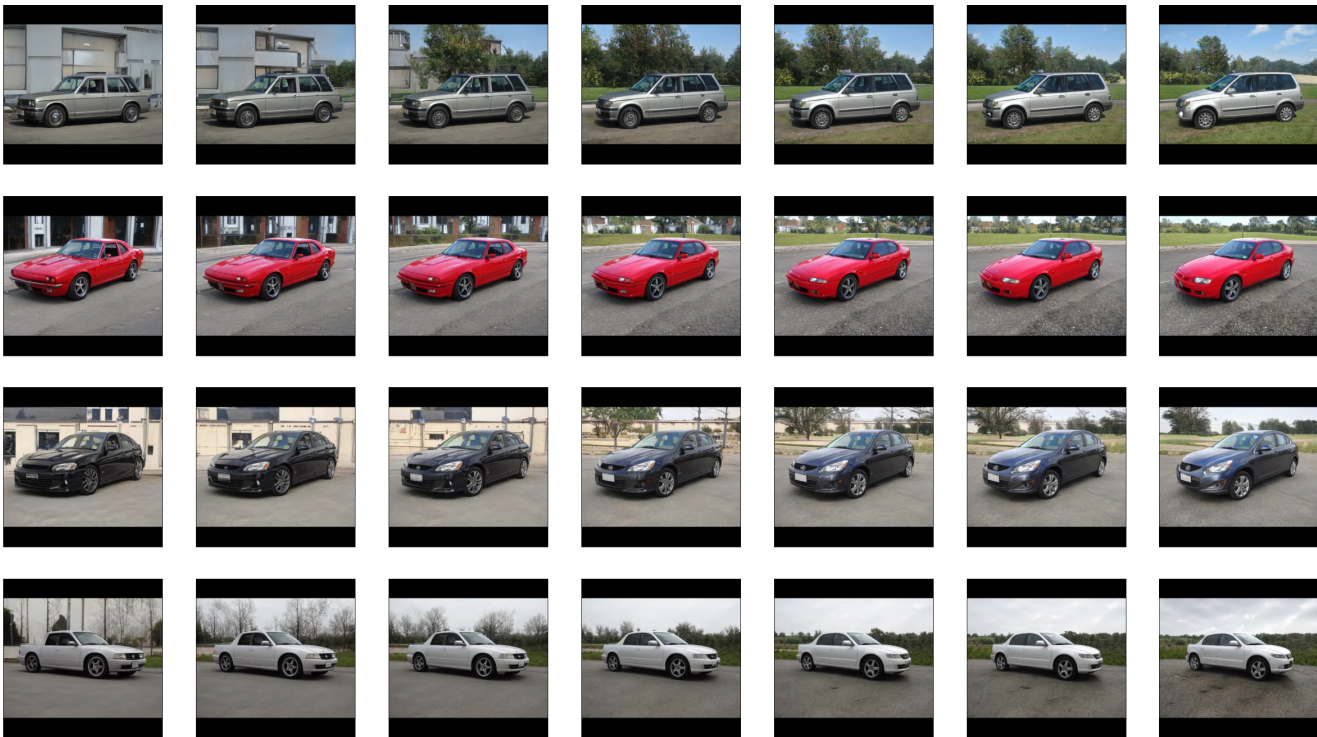


Figure 3: StyleGAN2 Car - Add building in the background



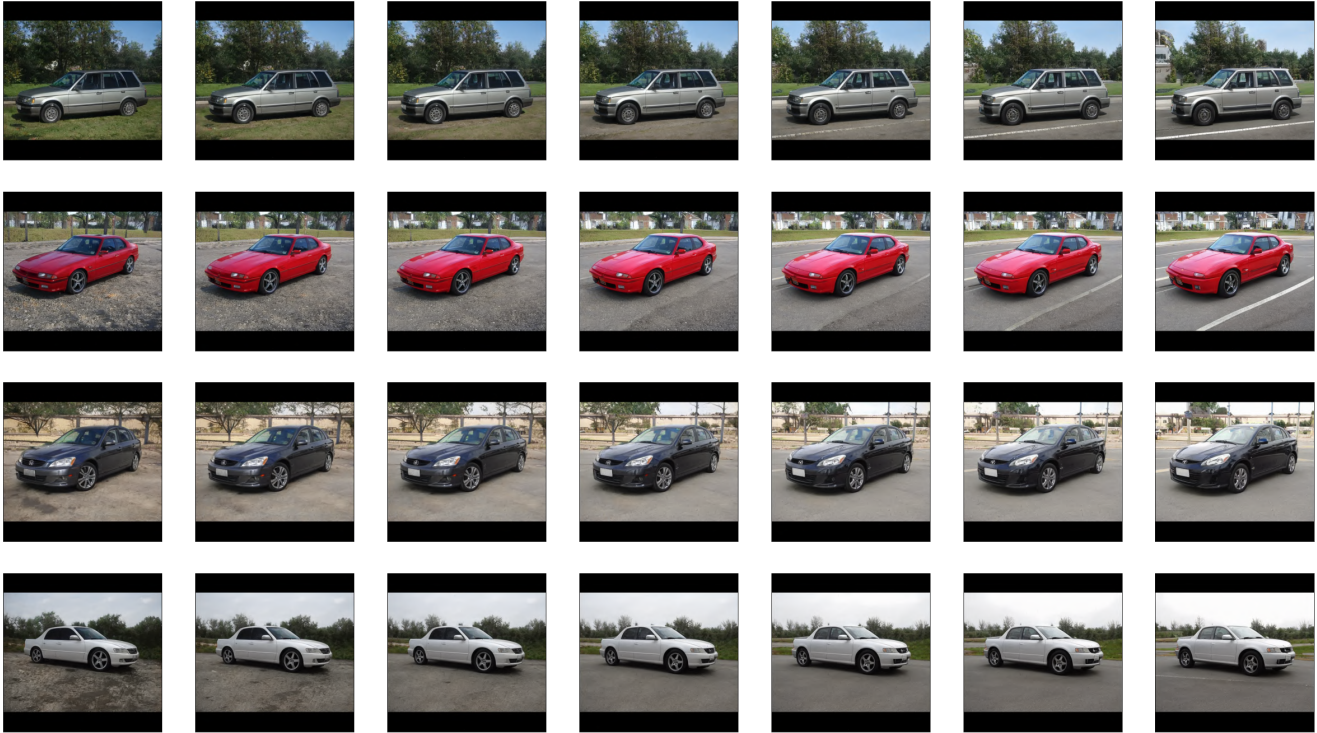


Figure 4: StyleGAN2 Car - Change ground texture

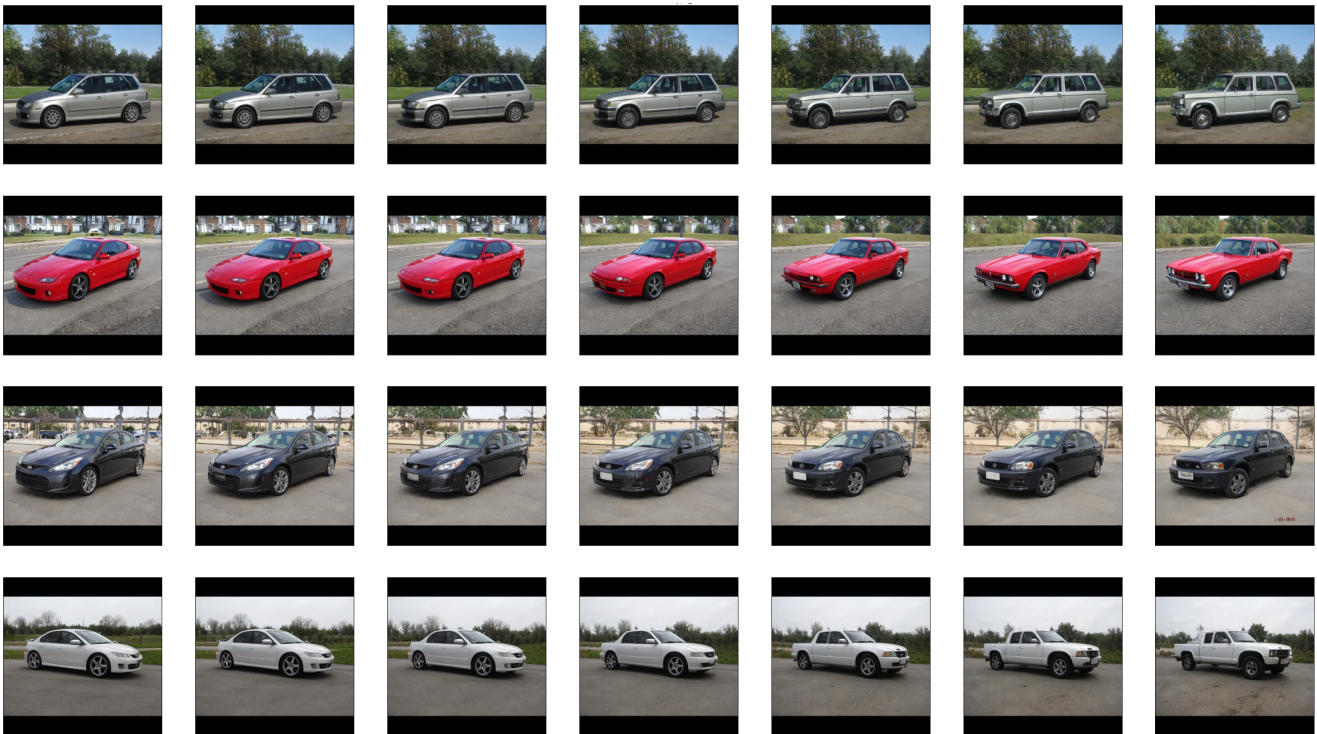


Figure 5: StyleGAN2 Car - Change style of the car



Figure 6: StyleGAN2 Cat - Change breed of the cat



Figure 7: StyleGAN2 Cat - Fluffiness





Figure 8: StyleGAN2 Cat - Rotate the cat

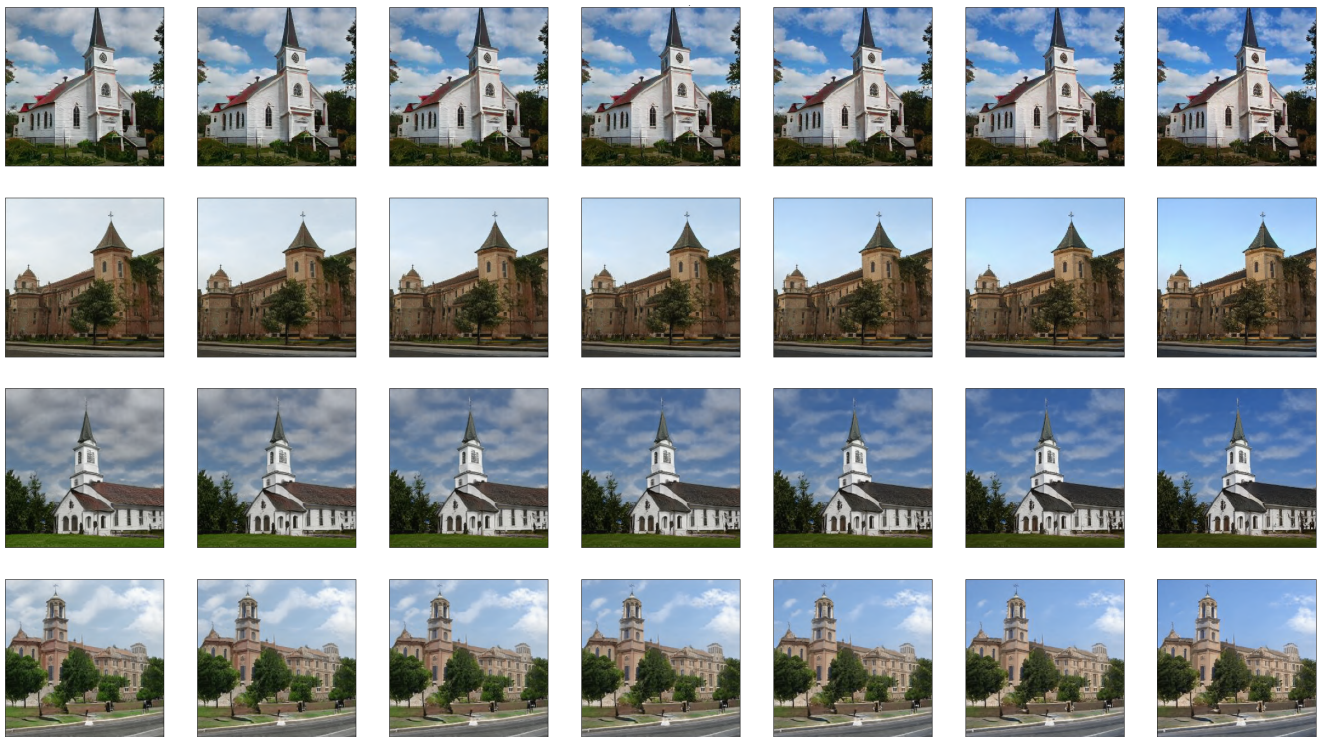


Figure 9: StyleGAN2 Church - Add clouds



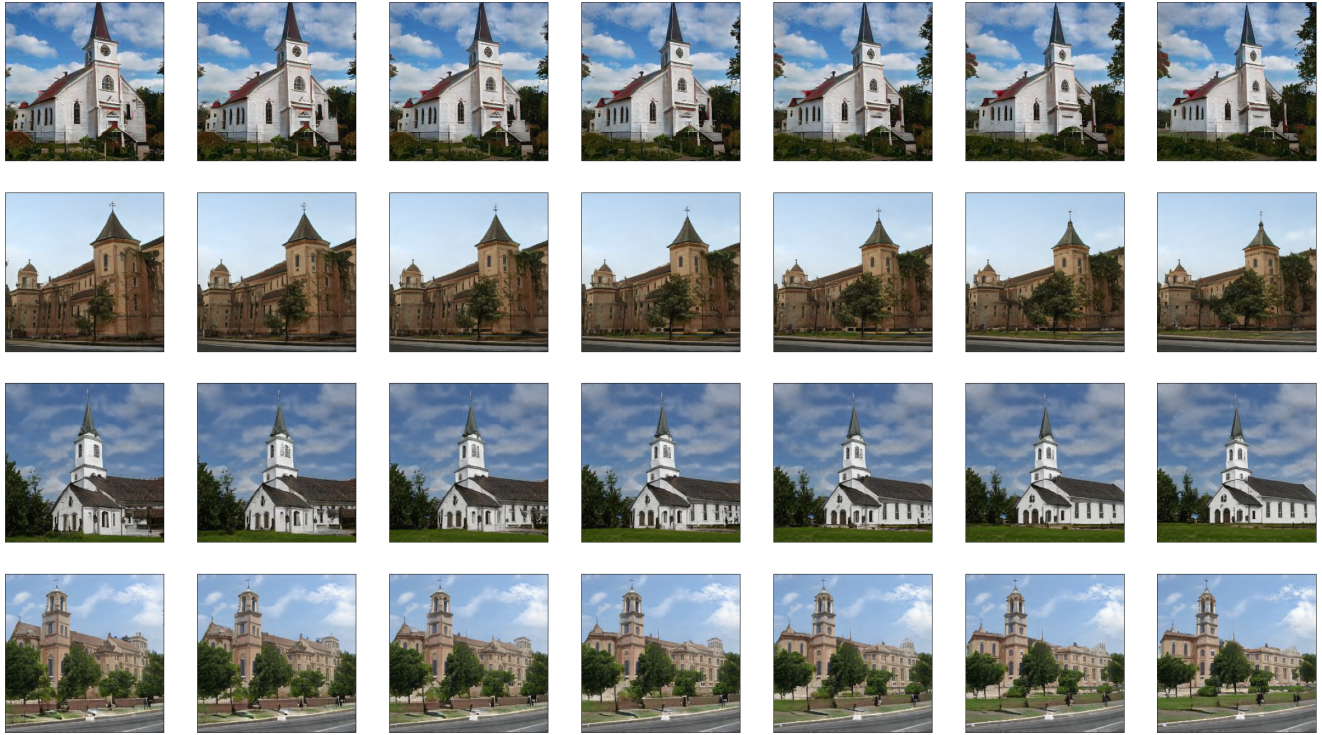


Figure 10: StyleGAN2 Church - Zoom out



Figure 11: StyleGAN2 FFHQ - Remove forehead hair





Figure 12: StyleGAN2 FFHQ - Curlier hair

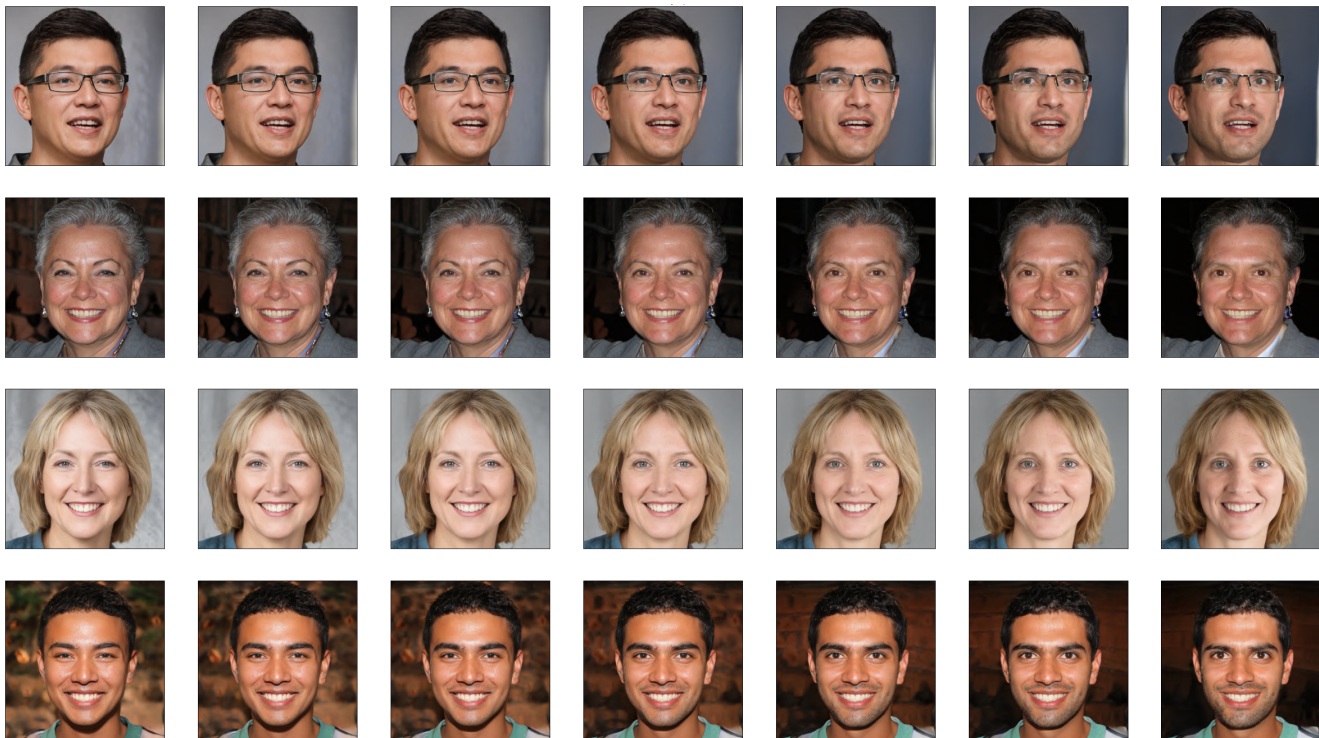


Figure 13: StyleGAN2 FFHQ - Open eyes



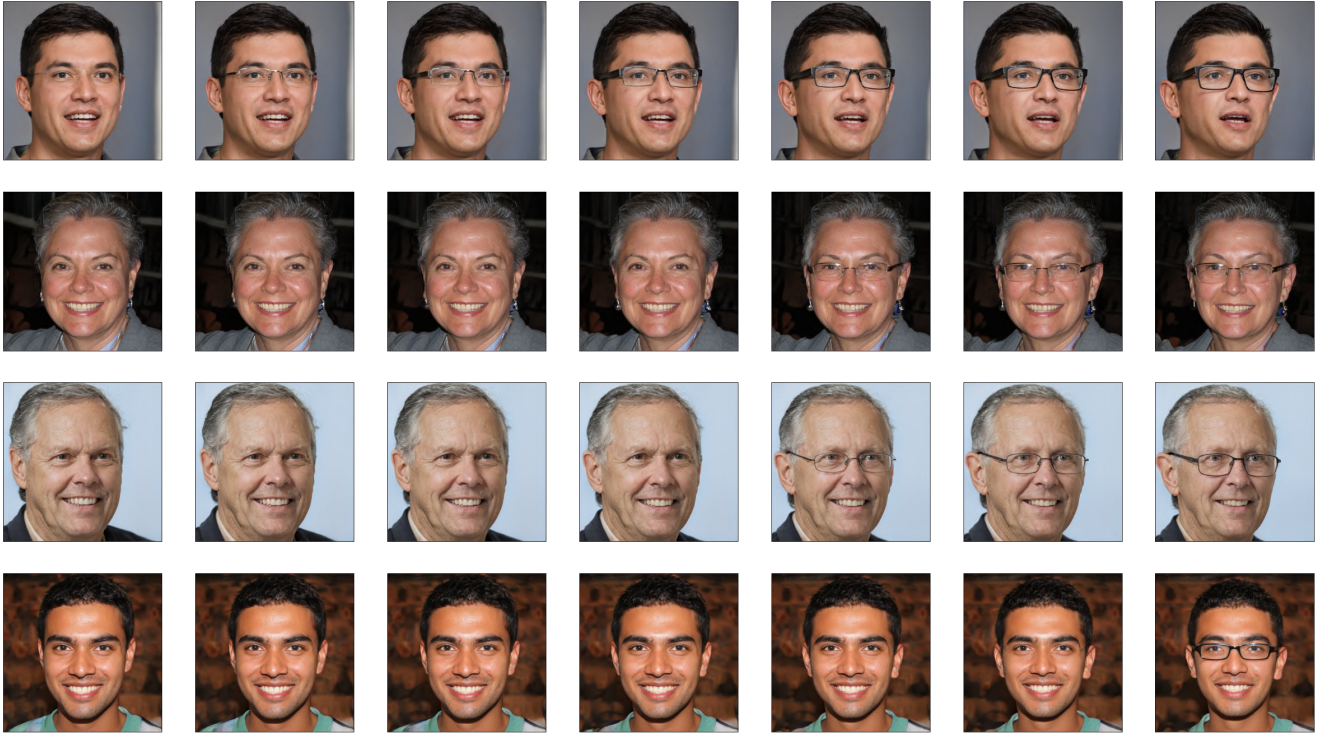


Figure 14: StyleGAN2 FFHQ - Put on glasses



Figure 15: StyleGAN2 FFHQ - Change haircolor





Figure 16: StyleGAN2 FFHQ - Put on a lipstick



Figure 17: StyleGAN2 FFHQ - Change pose





Figure 18: StyleGAN2 FFHQ - Smile

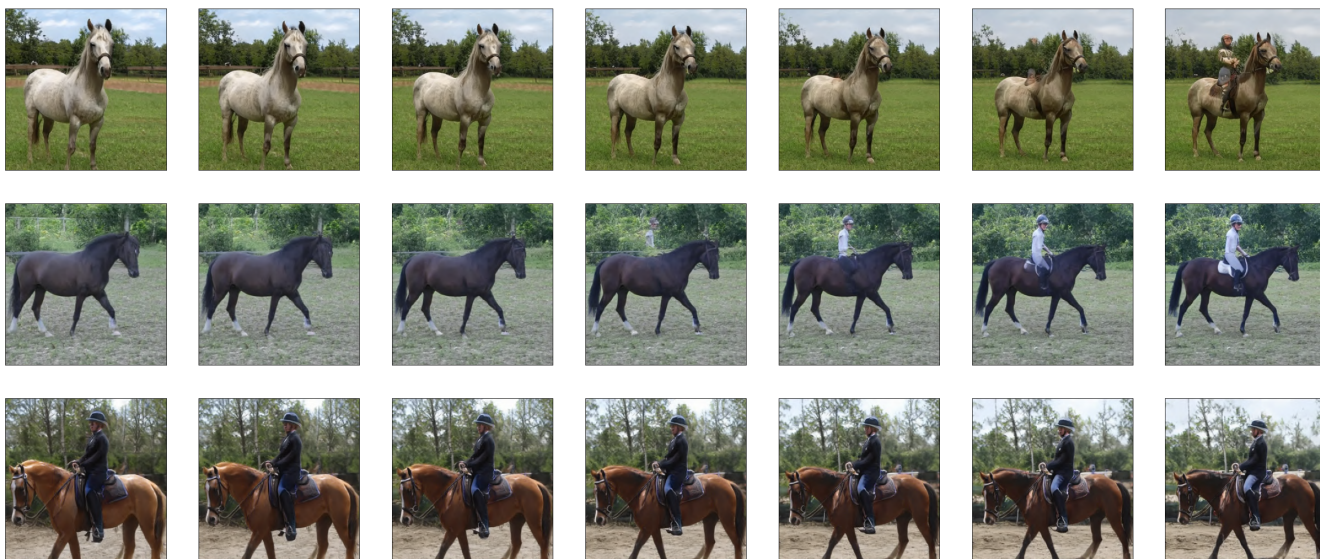


Figure 19: StyleGAN2 Horse - Add a rider



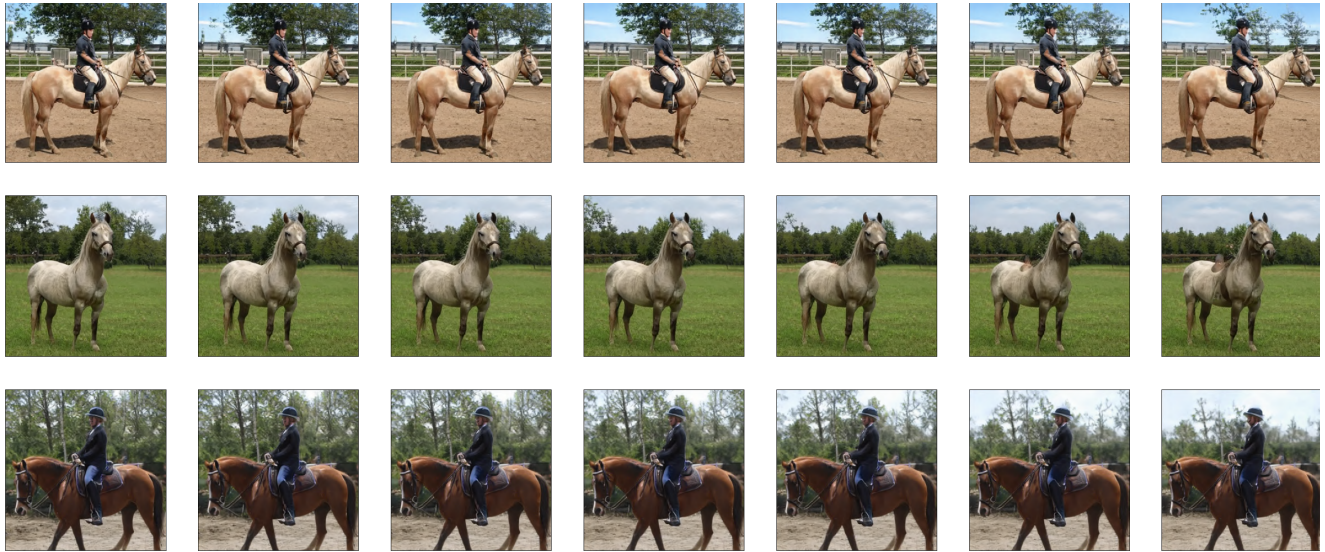
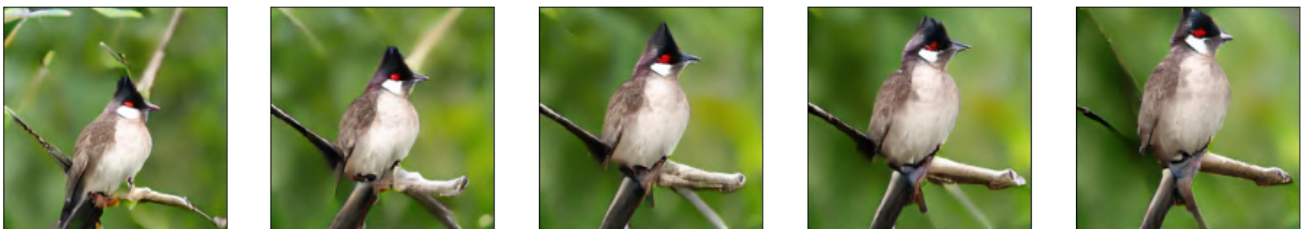


Figure 20: StyleGAN2 Horse - Add trees in the background

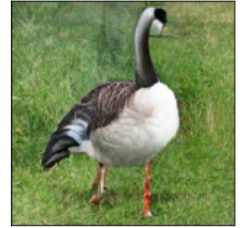
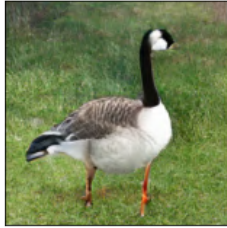
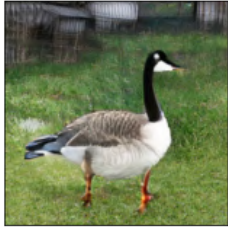
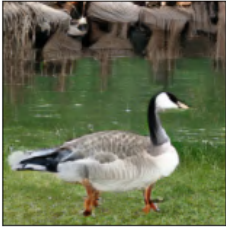


Figure 21: StyleGAN2 Horse - Change coat color

Direction: Zoom



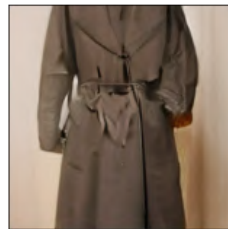
Direction: Zoom



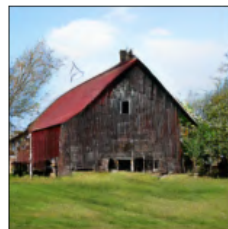
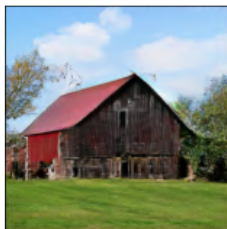
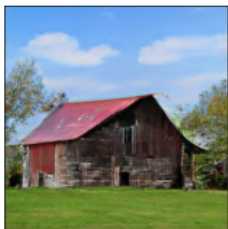
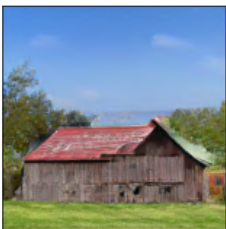
Direction: Zoom



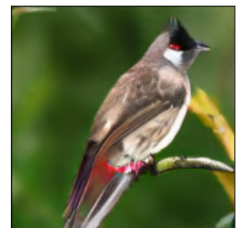
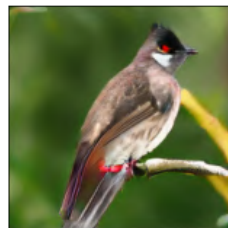
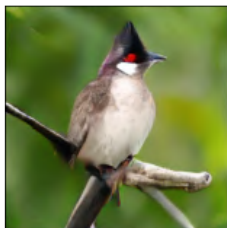
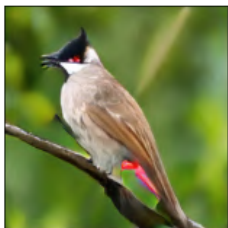
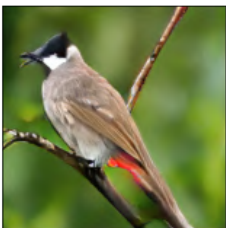
Direction: Zoom



Direction: Zoom

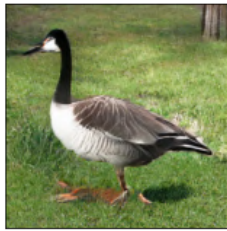
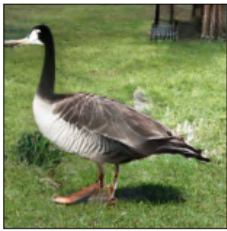


Direction: Rotation





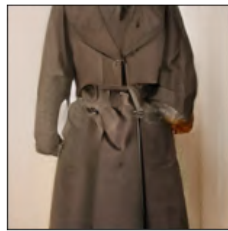
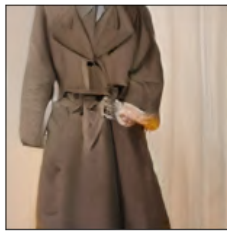
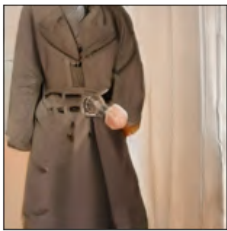
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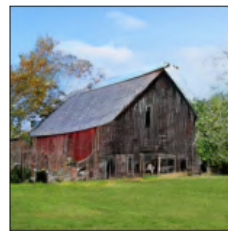
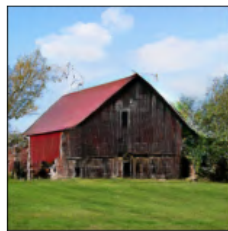
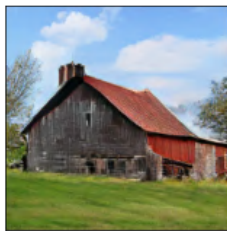
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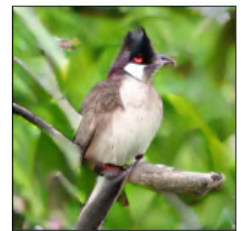
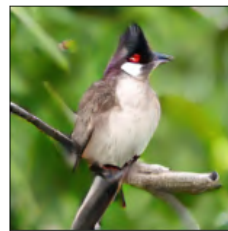
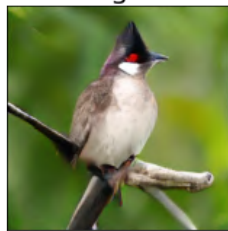
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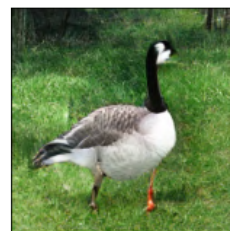
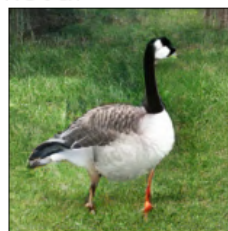
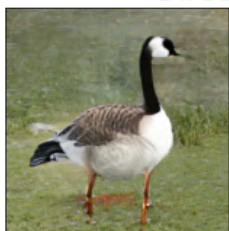
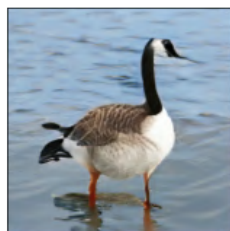
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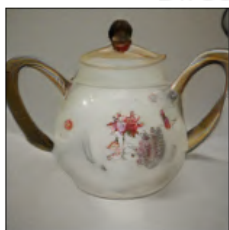
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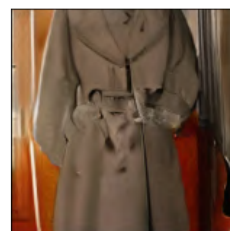
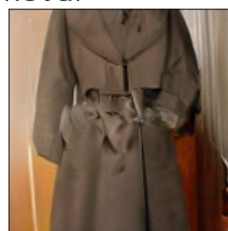
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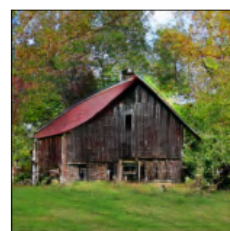
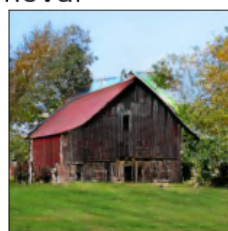
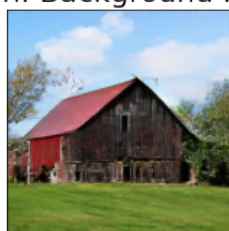
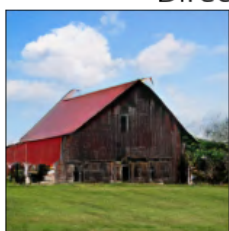
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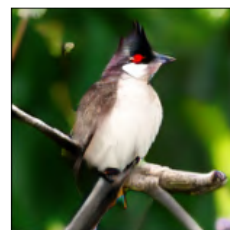
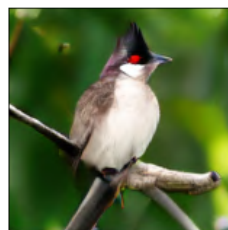
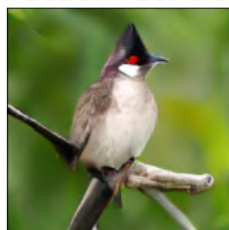
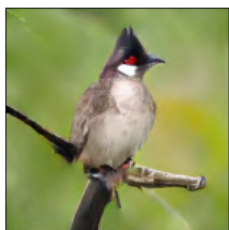
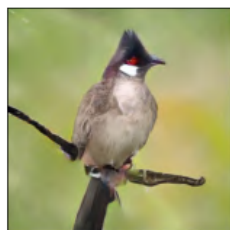
Direction: Background Removal



Direction: Background Removal

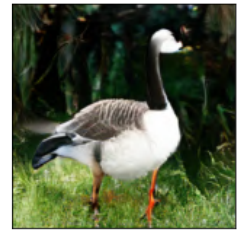
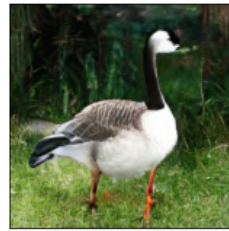
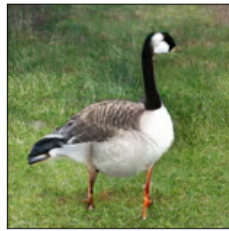
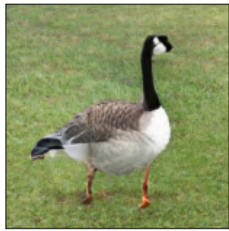


Direction: Contrast





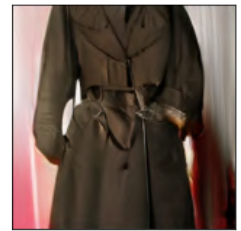
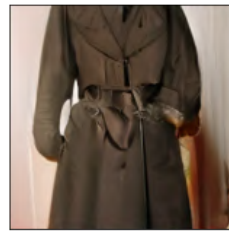
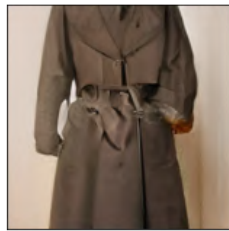
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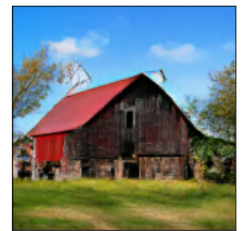
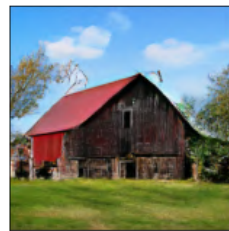
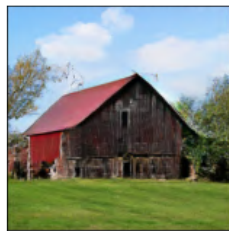
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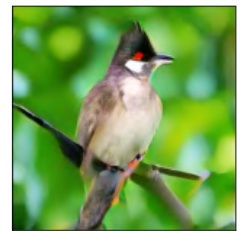
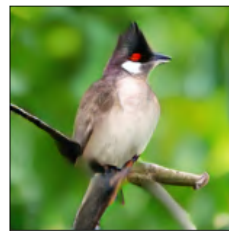
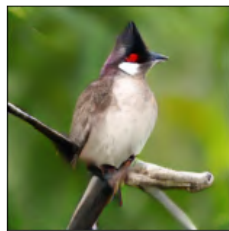
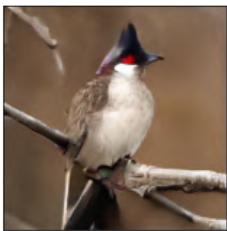
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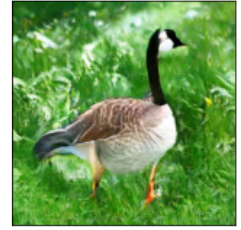
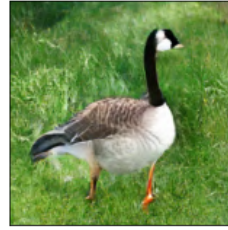
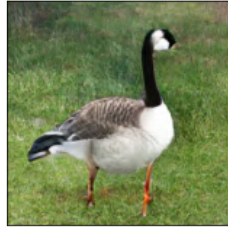
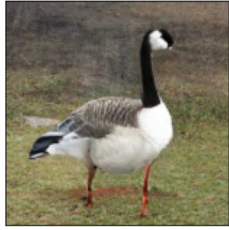
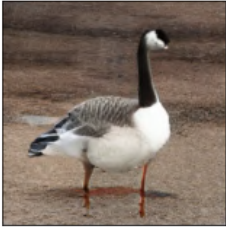
Direction: Contrast



Direction: Add Green



Direction: Add Green



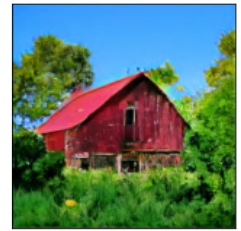
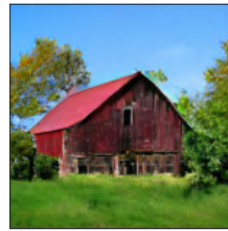
Direction: Add Green



Direction: Add Green



Direction: Add Green



Direction: Add Green

