SuperGaussian: Repurposing Video Models for 3D Super Resolution (Supplementary Material)

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1 Additional Results

We provide more examples from Instant3D, where we upsample the generated triplane-based 3D outputs into higher-quality Gaussian splats, in Fig. 1. Besides, as is demonstrated in Fig. 2, we achieve various levels of upsampling by running iteratively of SuperGaussian, e.g., ×4 and ×16 upsampling.

Fig. 1: Upsampling text-to-3D generation results. SuperGaussian can upsample text-to-3D outputs, e.g., Instant3D [2], a state-of-the-art text-to-3D method.

Fig. 2: Multi-level 3D up-sampling. Ours can achieve higher upsampling factors by running the video upsampler iteratively, e.g., ×4 and ×16 upsampling as above.

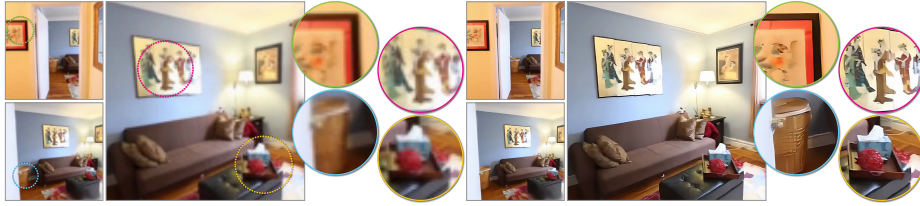⋆ This project was done during Yuan's internship at Adobe Research.

Fig. 3: Indoor Scenes. We successfully apply our algorithm to 3D-upsample generic, non-object-centric scenes like this 3D Gaussian Splatting indoor scene. In this example, we use one public-available pre-trained video prior, RealBasicVSR [1], which also produces high-quality upsampling quality.

References

1. Chan, K.C., Zhou, S., Xu, X., Loy, C.C.: Investigating tradeoffs in real-world video super-resolution. In: Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) (2022)
2. Li, J., Tan, H., Zhang, K., Xu, Z., Luan, F., Xu, Y., Hong, Y., Sunkavalli, K., Shakhnarovich, G., Bi, S.: Instant3D: Fast text-to-3d with sparse-view generation and large reconstruction model. arXiv preprint arXiv:2311.06214 (2023)