

Restore3D: Breathing Life into Broken Objects with Shape and Texture Restoration

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A Supplementary Material

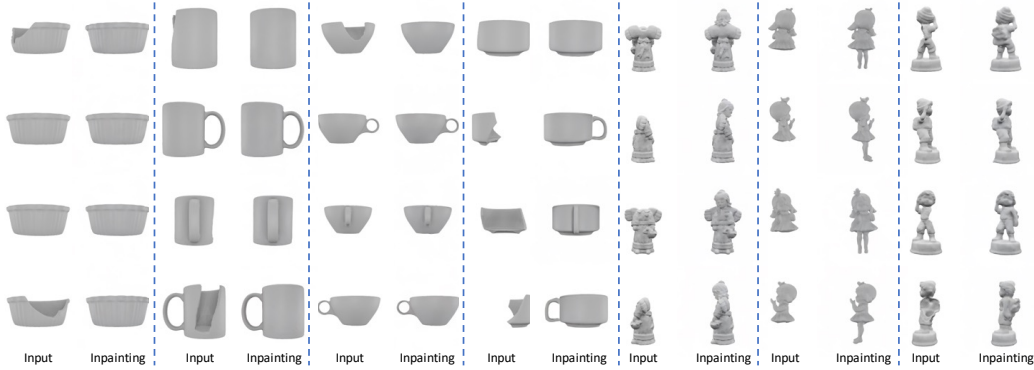


Figure 1: Real-world cases.

Table 1: Results of Fantastic Breaks.

Method	PSNR \uparrow	LPIPS \downarrow	SSIM \uparrow
SD	12.59	0.72	0.40
Controlnet	15.63	0.55	0.56
Nerfiller	18.94	0.52	0.81
Ours	26.91	0.09	0.97



Figure 2: Visual comparison

Table 2: Comparison with shape completion methods.

Method	CD \downarrow	F-score \uparrow
SDFusion	0.015	0.096
Ours	0.005	0.389

A.1 Object restoration for real-world cases.

We test our inpainting model on Fantastic Breaks [2] which has 150 real-world paired broken-complete cases. As shown in Fig. 1 and Table 1, the qualitative and quantitative results also show that our model can yield promising results.

A.2 Comparison with shape completion methods

We compare our method with SDFusion [1], a shape completion method. As shown in Table 2 and Fig. 2, the results show that our method outperforms SDFusion.

9 References

- 10 [1] Yen-Chi Cheng, Hsin-Ying Lee, Sergey Tulyakov, Alexander G Schwing, and Liang-Yan Gui. Sdfusion:
11 Multimodal 3d shape completion, reconstruction, and generation. In *CVPR*, 2023.
- 12 [2] Nikolas Lamb, Cameron Palmer, Benjamin Molloy, Sean Banerjee, and Natasha Kholgade Banerjee.
13 Fantastic breaks: A dataset of paired 3d scans of real-world broken objects and their complete counterparts.
14 In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, pages
15 4681–4691, June 2023.