| Input | Synthesized Image | V_t | V |

Figure 7: Visualization of visibility maps. V_t/V are target-view/predicted visibility maps. Our NeRF successfully fools the discriminator as most areas in its synthesized images are recognized as visible.

Table 4: Ablation study on selected features.

Feature	PSNR	SSIM	LPIPS
q	24.86	0.87	0.18
$q + p$	25.06	0.86	0.19
$q + p'$	25.47	0.86	0.18
$q + p + p'$	**25.74**	**0.87**	**0.18**

proposed discriminator outperforms the binary one by large margins in scenes with view variations and occlusions.

Visualization of visibility maps. The predictions of the proposed discriminator are shown in Figure 7. We can see that the VA-NeRF network does learn to compete with the discriminator effectively, as most regions are recognized as visible by the discriminator. Hence, the proposed VAGL strategy has achieved our goals successfully.

Conclusion

In this paper, we introduce a single-image generalizable visibility-aware neural radiance field framework for image synthesis of interacting hands. The proposed framework leverages the visibility of 3D points for feature fusion and adversarial learning. Our feature fusion is achieved by fusing features of reference vertices closely related to query points, with fusion weights determined by point visibility. Our adversarial learning is accomplished through the training of a pixel-wise discriminator capable of estimating visibility maps. With these two components cooperating together, the proposed method can obtain reliable features and high-quality results, even in challenging scenarios involving heavy occlusions and large view variations. The proposed method is evaluated on Interhand2.6M and obtains performance superior to state-of-the-art generalizable models.

Table 5: Ablation study on attention strategies.

Method	PSNR	SSIM	LPIPS
KeyPointNeRF	24.37	0.85	0.24
Attn. w/o Vis.	24.74	0.86	0.20
Attn. w/ Vis.	**25.74**	**0.87**	**0.18**

Table 6: Ablation study on discriminators.

Scene	Method	PSNR	SSIM	LPIPS
View Variation	Bi. Dis.	23.77	0.83	0.24
	Vis. Dis.	**24.34**	**0.84**	**0.21**
Occlusion	Bi. Dis.	24.57	0.85	0.20
	Vis. Dis.	**25.43**	**0.86**	**0.19**

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