# Relighting Neural Radiance Fields with Shadow and Highlight Hints

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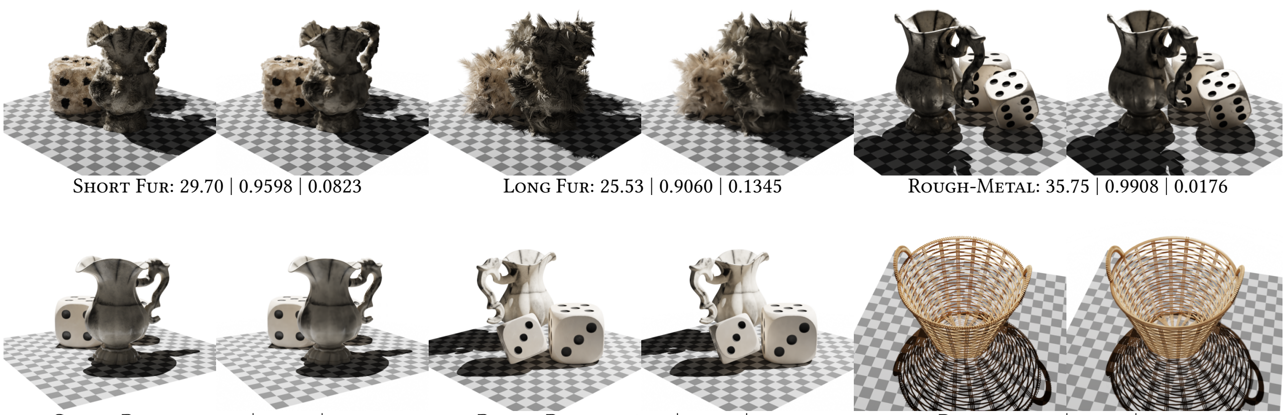


**Figure 1: Qualitative comparison between additional synthetic scenes relit (right) for a novel viewpoint and novel lighting direction (not part of the training data) and a rendered reference image (left). For each example we list average PSNR, SSIM, and LPIPS computed over a uniform sampling of view and light positions.**

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## 1 ADDITIONAL RESULTS

Figure 1 shows additional synthetic results to further test our method on scenes with different material properties. The Basket scene is included in the ablation study figures, but not listed in Figure 3 (of the main paper); we include it here for completeness.

## 2 NETWORK ARCHITEXTURE DETAILS

We follow exactly the same architecture as NeuS [Wang et al. 2021] for the density MLP: 8 hidden layers with 256 nodes using a Softplus activation and a skip connection between the input and the 4th layer. The input (i.e., current position along a ray) is augmented using a frequency encoding with 6 bands. The relightable radiance network has a similar network architecture as NeuS' color MLP: 4 hidden layers with 256 nodes using a ReLU activation. The final color is outputted after a Sigmoid activation, ensuring that the output color is within the $(-1, 1)$ range. Figure 2 details network architecture of our method.

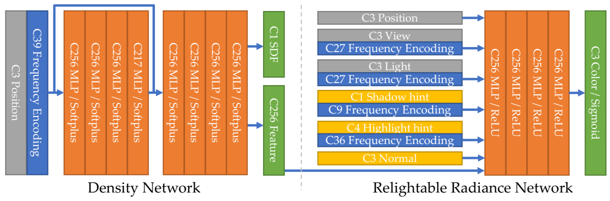


**Figure 2: Detailed network architecture of the density and relightable radiance network. The number of output channels and activations are also marked.**

# REFERENCES

Peng Wang, Lingjie Liu, Yuan Liu, Christian Theobalt, Taku Komura, and Wenping Wang. 2021. NeuS: Learning Neural Implicit Surfaces by Volume Rendering for Multi-view Reconstruction. *NeurIPS* (2021).