

Supplementary Material

NeRFPlayer: A Streamable Dynamic Scene Representation with Decomposed Neural Radiance Fields

Liangchen Song , Anpei Chen , Zhong Li , Zhang Chen , Lele Chen ,
Junsong Yuan , Yi Xu , and Andreas Geiger 



Here, we present the specific experimental settings of some related works:

Method	Dataset Cameras ^α	2D Priors ^β
D-NeRF [6]	Single	None
Nerfies [4]	Single	None
NR-NeRF [7]	Single	None
DCT-NeRF [8]	Single	Depth & Optical Flow
NSFF [3]	Single	Depth & Optical Flow
VideoNeRF [9]	Single	Depth
NeRFlow [1]	Single	Optical Flow
HyperNeRF [5]	Single	None
DyNeRF [2]	Multi	None

^α Camera settings in the dynamic scenes for testing the method. Note that this is only for the original paper, and the methods could also be used under other camera settings as well.

^β The 2D prior required for training. Note that the priors only indicate that they are used in the original paper, but these methods may still work without these priors.

REFERENCES

- [1] Y. Du, Y. Zhang, H.-X. Yu, J. B. Tenenbaum, and J. Wu. Neural radiance flow for 4d view synthesis and video processing. In *Proceedings of the IEEE/CVF International Conference on Computer Vision*, 2021. 1
- [2] T. Li, M. Slavcheva, M. Zollhöfer, S. Green, C. Lassner, C. Kim, T. Schmidt, S. Lovegrove, M. Goesele, R. Newcombe, and Z. Lv. Neural 3d video synthesis from multi-view video. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, pp. 5521–5531, June 2022. 1
- [3] Z. Li, S. Niklaus, N. Snavely, and O. Wang. Neural scene flow fields for space-time view synthesis of dynamic scenes. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*, 2021. 1
- [4] K. Park, U. Sinha, J. T. Barron, S. Bouaziz, D. B. Goldman, S. M. Seitz, and R. Martin-Brualla. Nerfies: Deformable neural radiance fields. In *Proceedings of the IEEE/CVF International Conference on Computer Vision*, pp. 5865–5874, October 2021. 1
- [5] K. Park, U. Sinha, P. Hedman, J. T. Barron, S. Bouaziz, D. B. Goldman, R. Martin-Brualla, and S. M. Seitz. Hypernerf: A higher-dimensional representation for topologically varying neural radiance fields. *ACM Trans. Graph.*, 40(6), dec 2021. 1
- [6] A. Pumarola, E. Corona, G. Pons-Moll, and F. Moreno-Noguer. D-nerf: Neural radiance fields for dynamic scenes. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*, pp. 10318–10327, 2021. 1
- [7] E. Tretschk, A. Tewari, V. Golyanik, M. Zollhöfer, C. Lassner, and C. Theobalt. Non-rigid neural radiance fields: Reconstruction and novel view synthesis of a dynamic scene from monocular video. In *Proceedings of the IEEE/CVF International Conference on Computer Vision*, pp. 12959–12970, October 2021. 1
- [8] C. Wang, B. Eckart, S. Lucey, and O. Gallo. Neural trajectory fields for dynamic novel view synthesis. *arXiv preprint arXiv:2105.05994*, 2021. 1
- [9] W. Xian, J.-B. Huang, J. Kopf, and C. Kim. Space-time neural irradiance fields for free-viewpoint video. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*, pp. 9421–9431, 2021. 1