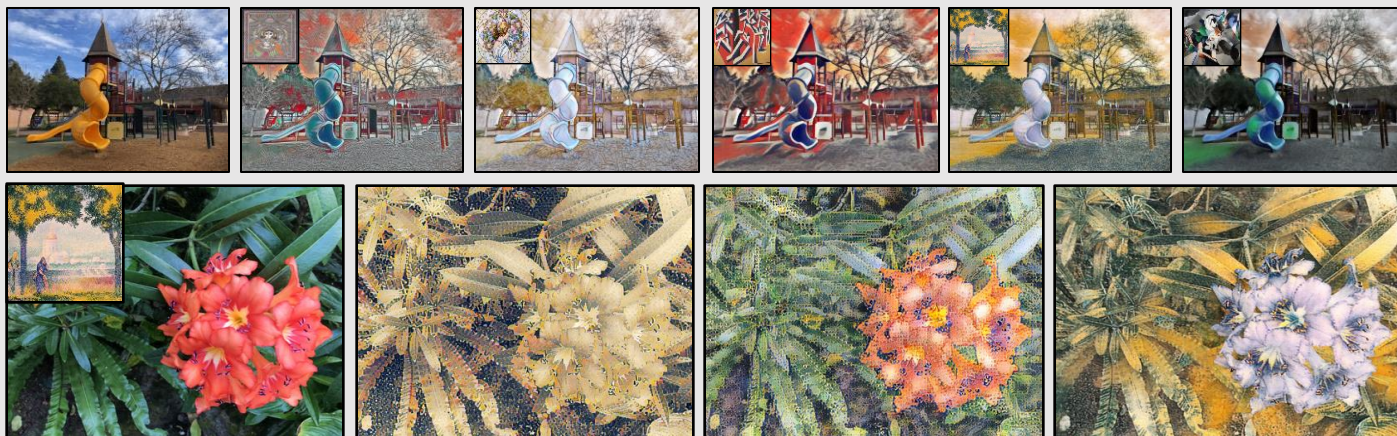# StyleTRF: Stylizing Tensorial Radiance Fields

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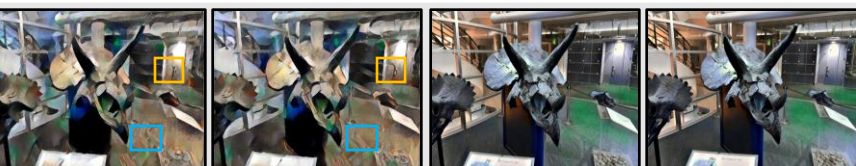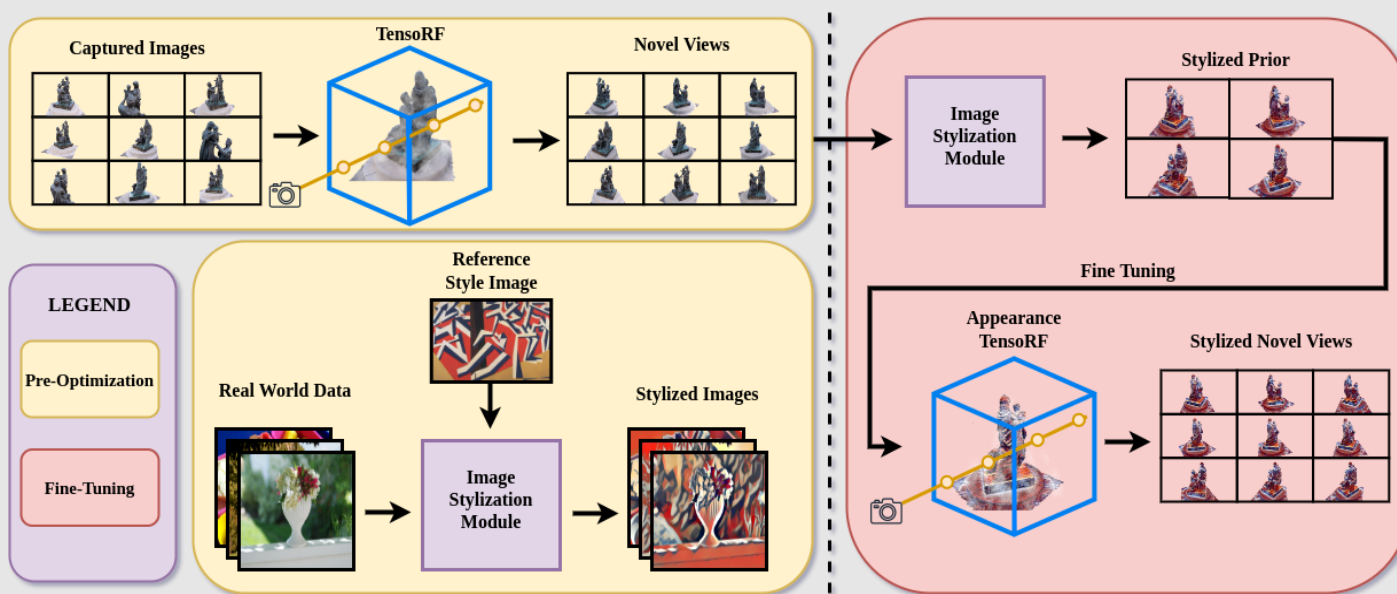
| Ground Truth | ReReVST [1] | StylizedNeRF [2] | Ours |

The first figure row shows our different styles applied to the Playground Scene. The second row compares the results produced by ReReVST, StylizedNeRF and our method.

SNeRF and StylizedNeRF made the mistake of choosing 2D stylization methods [3] that produce inconsistent results as shown in the first two images. The last two images show that the choice of a fixed feedforward CNN [4] provides speed as well as stability which is necessary.

Radiance Field Pre-Training: 15 Mins.
Training of Image Stylization Module: 15 Mins.
Stylization: 40 Secs.

TensoRF [5] Storage: 25-30 MB.
Image Stylization Module Storage: 7MB.

References

[1] Wenjing Wang, Shuai Yang, Jizheng Xu, and Jiaying Liu. 2020. Consistent VideoStyle Transfer via Relaxation and Regularization. IEEE Trans. Image Process.(2020).
[2] Yi-Hua Huang, Yue He, Yu-Jie Yuan, Yu-Kun Lai, and Lin Gao. 2022. StylizedNeRF: Consistent 3D Scene Stylization as Stylized NeRF via 2D-3D Mutual Learning. In Computer Vision and Pattern Recognition (CVPR).
[3] Leon A. Gatys, Alexander S. Ecker, and Matthias Bethge. 2016. Image StyleTransfer Using Convolutional Neural Networks. In2016 IEEE Conference onComputer Vision and Pattern Recognition (CVPR).
[4] Justin Johnson, Alexandre Alahi, and Li Fei-Fei. 2016. Perceptual Losses for Real-Time Style Transfer and Super-Resolution. InEuropean Conference on ComputerVision (ECCV).
[5] Anpei Chen, Zexiang Xu, Andreas Geiger, Jingyi Yu, and Hao Su. 2022. TensoRF:Tensorial Radiance Fields. InEuropean Conference on Computer Vision (ECCV).