

L2G-NeRF:

Local-to-Global Registration for Bundle-Adjusting Neural Radiance Fields



Yue Chen



Xingyu Chen



Xuan Wang



Qi Zhang



Yu Guo



Ying Shan



Fei Wang



西安交通大学
XI'AN JIAOTONG UNIVERSITY

IAIR Est. 1986

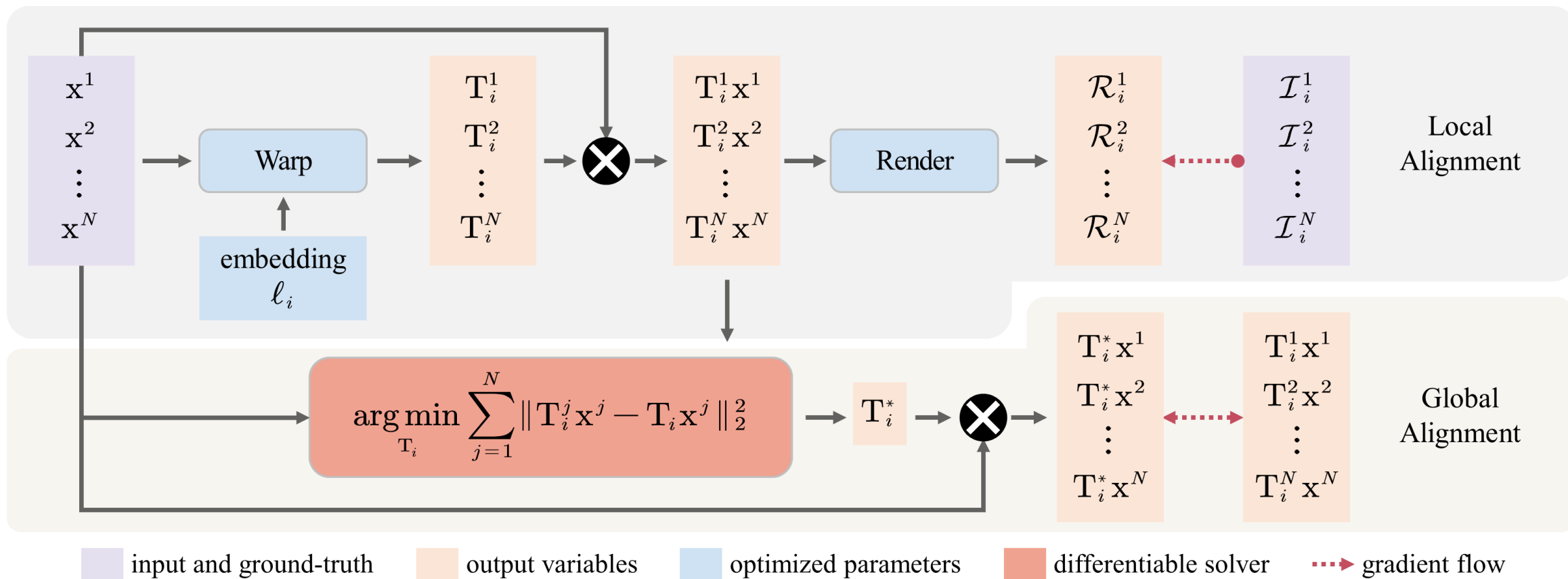


ANT
GROUP



Tencent
AI Lab

Method



Neural Image Alignment (2D)

Evaluation

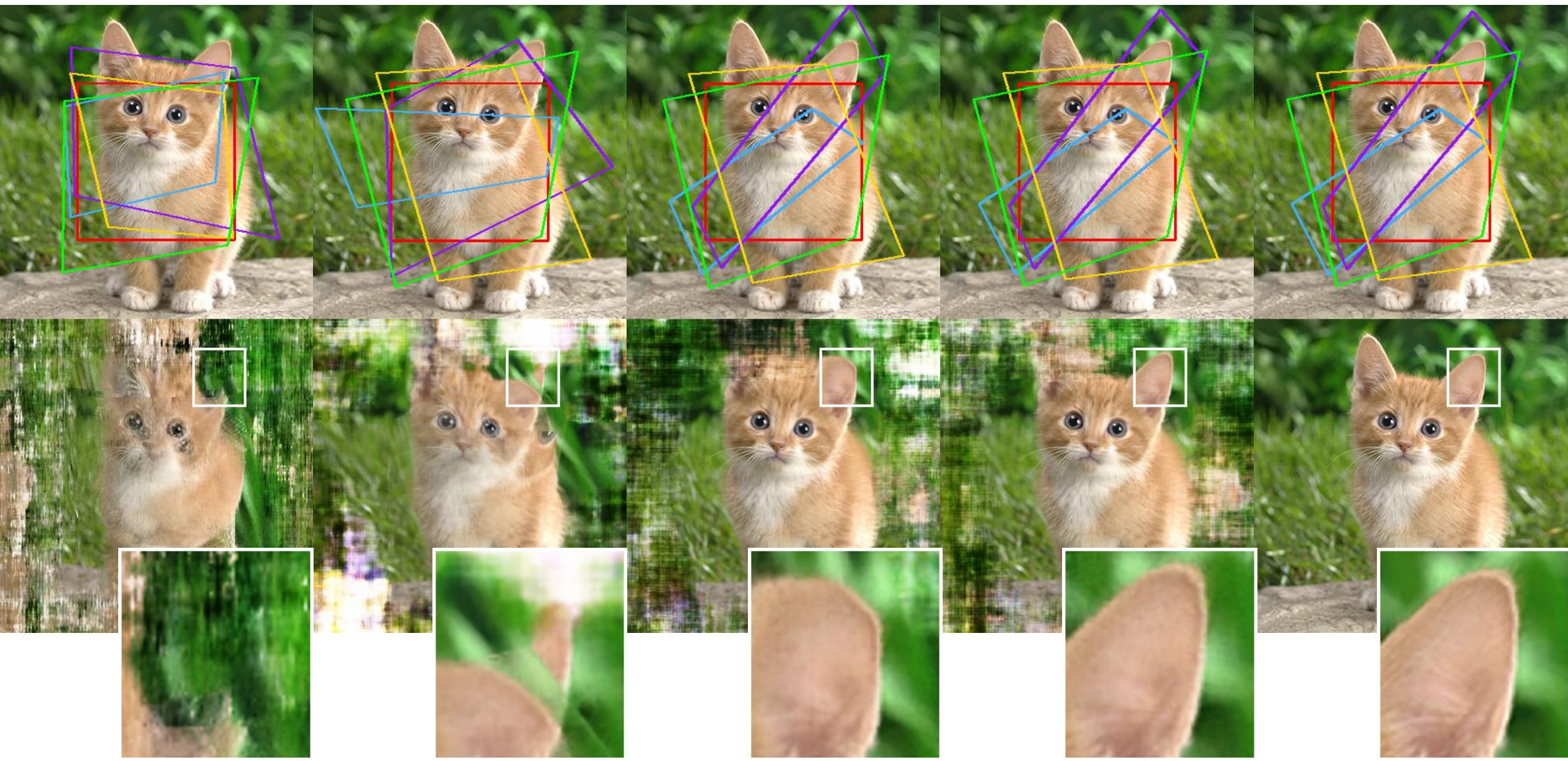
Naïve

BARF (Global)

w/o \mathcal{L}_{global} (Local)

Ours (Local-to-Global)

Ground-truth



NeRF (3D): Synthetic Objects

Evaluation

Naïve



BARF



Ours



ref. NeRF



epoch 0



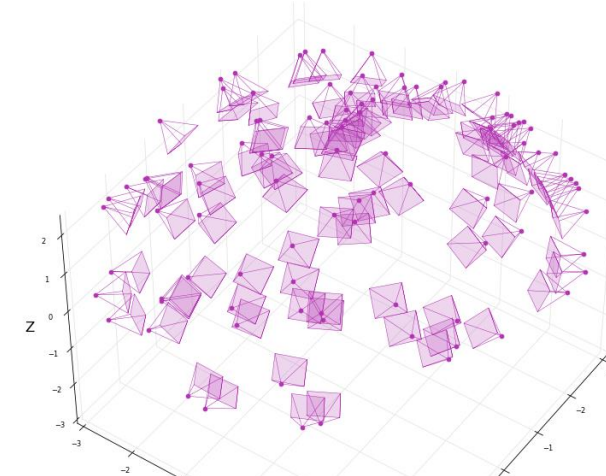
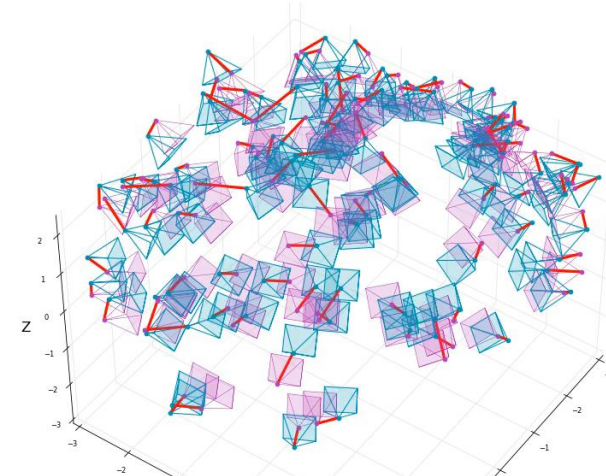
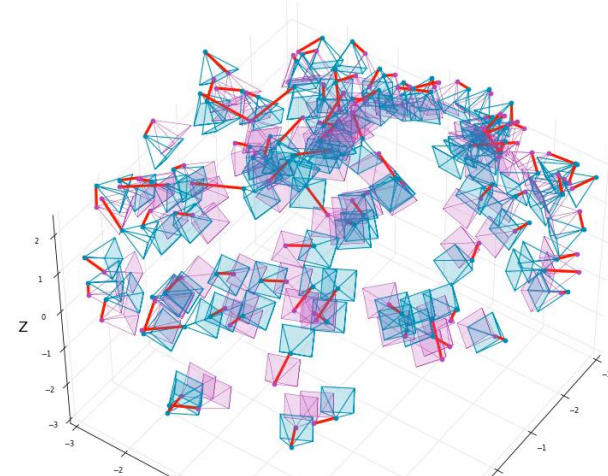
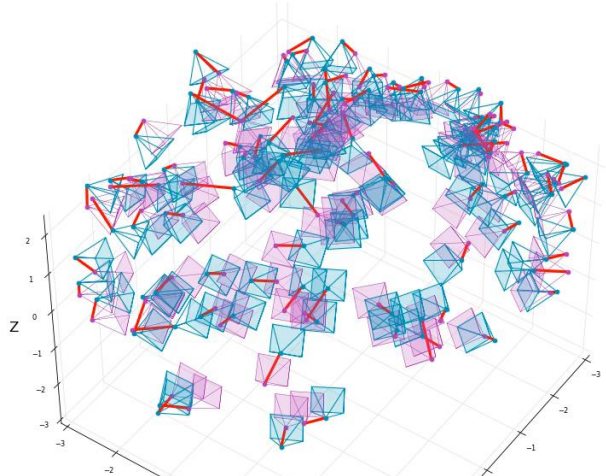
epoch 0



epoch 0

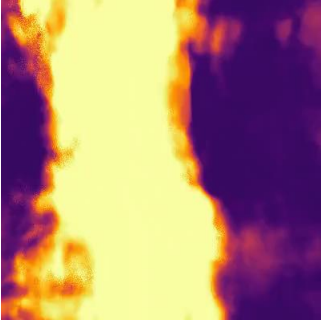


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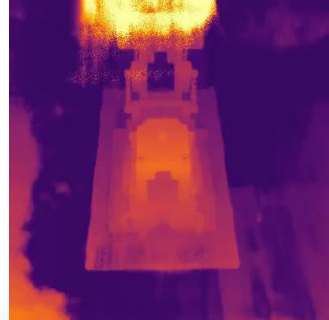


Evaluation

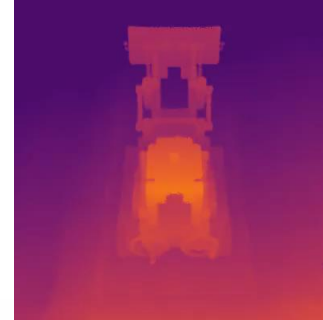
Naïve



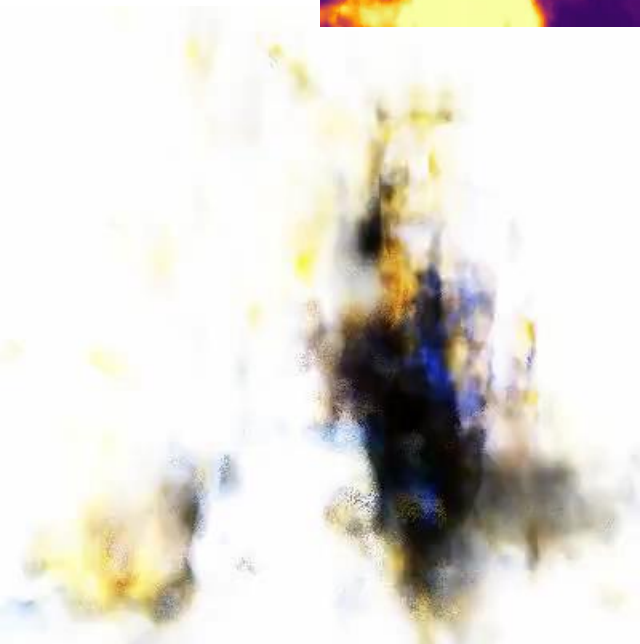
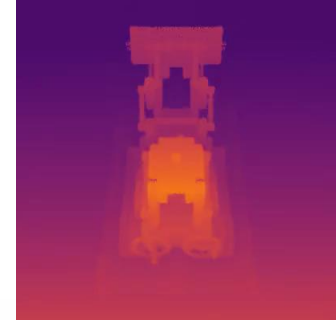
BARF



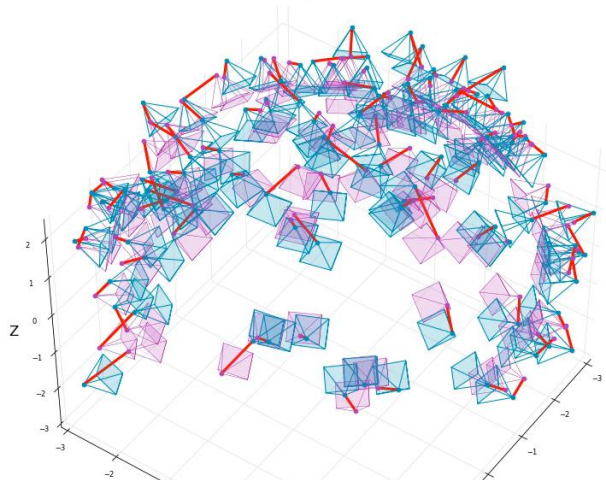
Ours



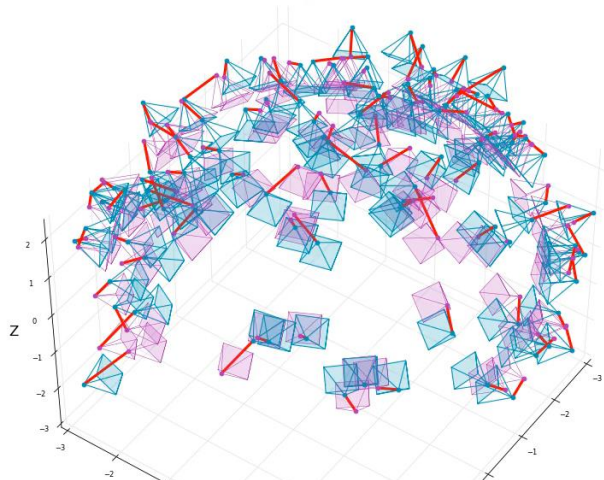
ref. NeRF



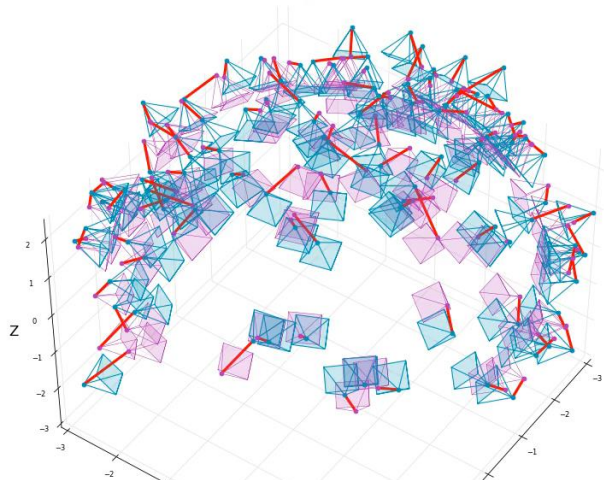
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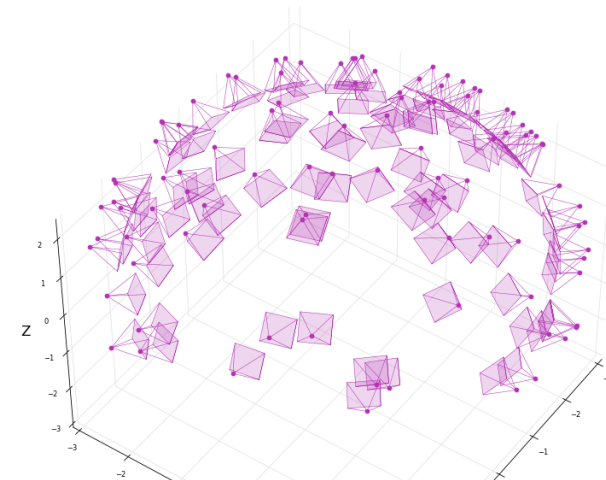
epoch 0



epoch 0

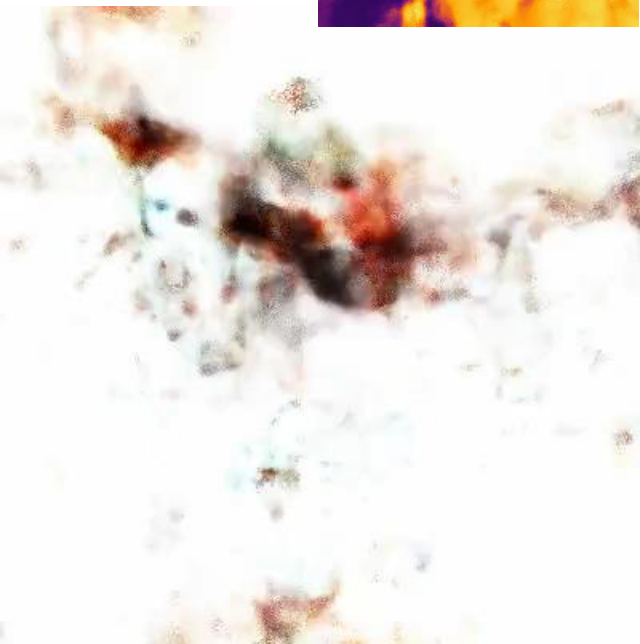
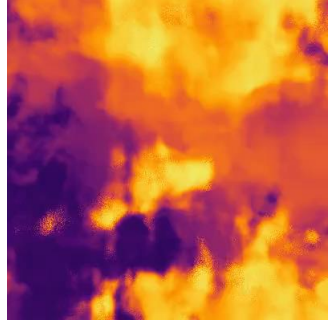


epoch 0

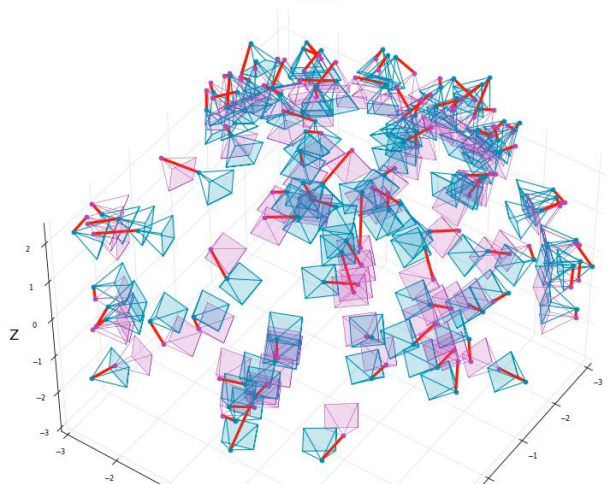


Evaluation

Naïve



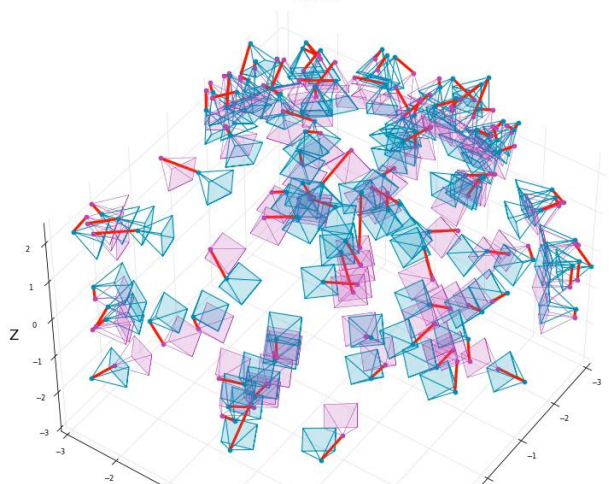
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BARF



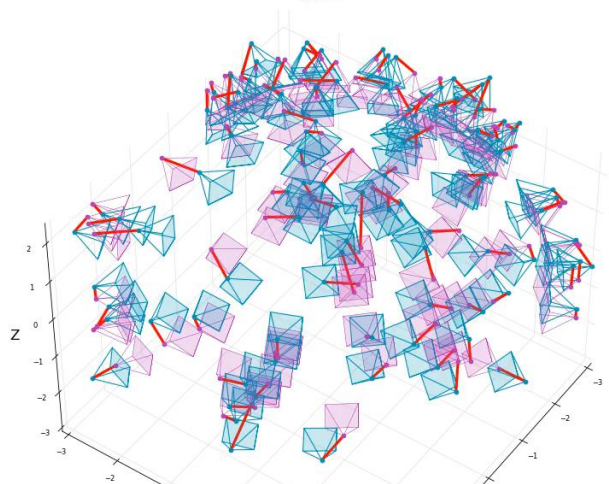
epoch 0



Ours



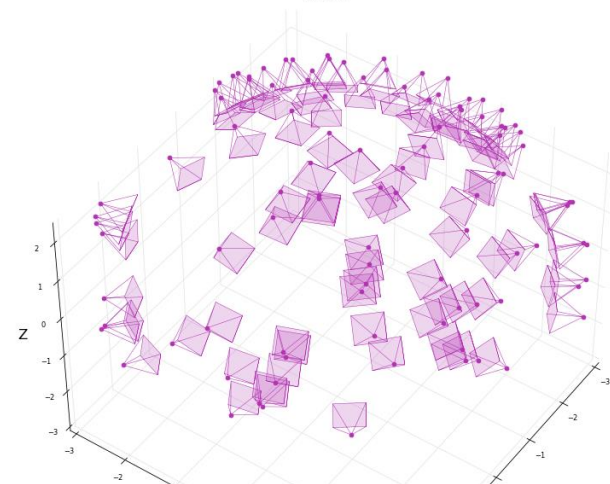
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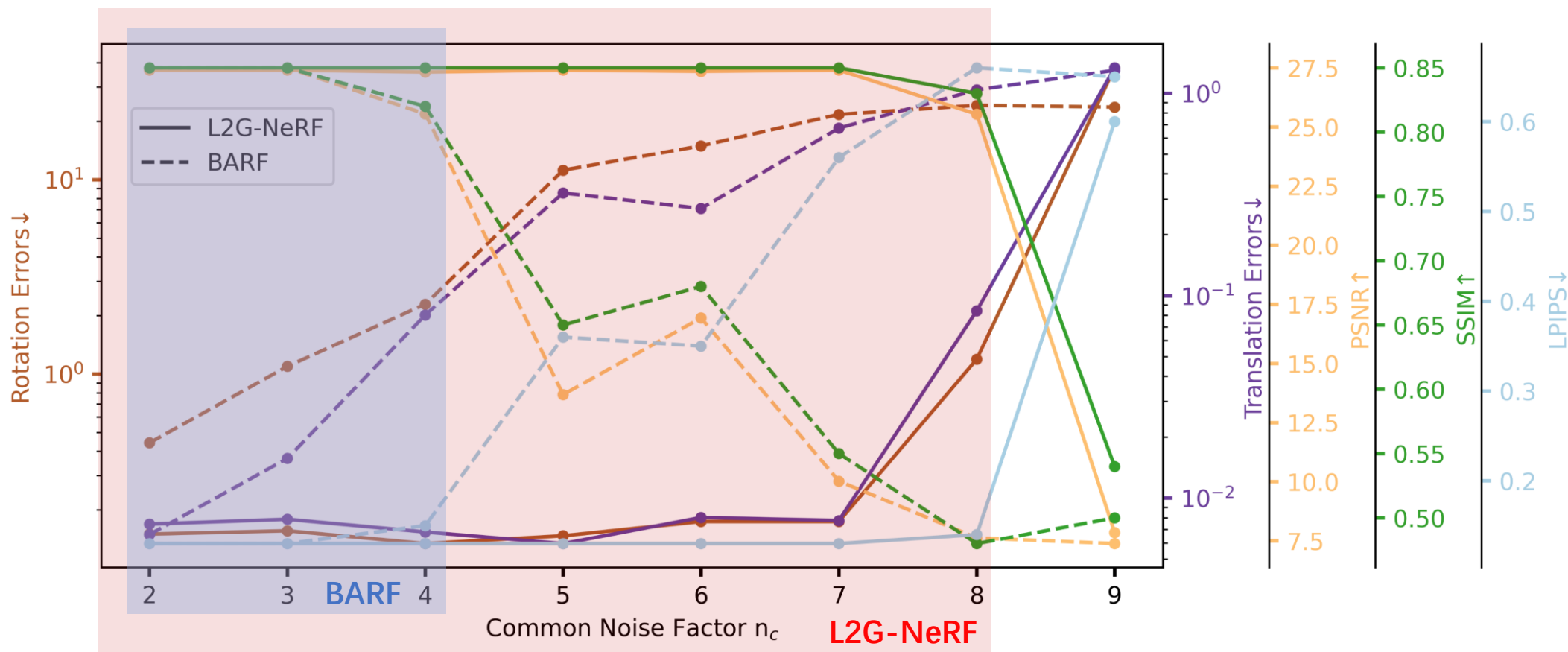
ref. NeRF



epoch 0



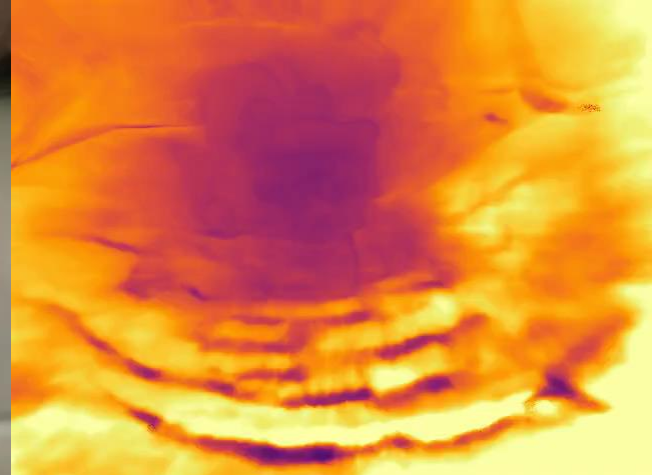
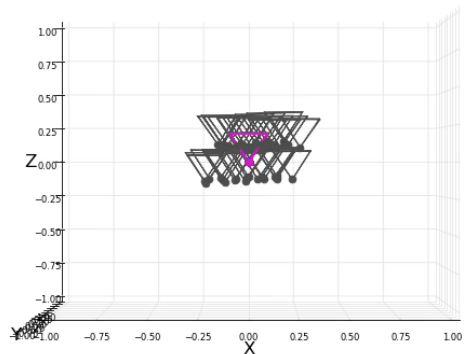
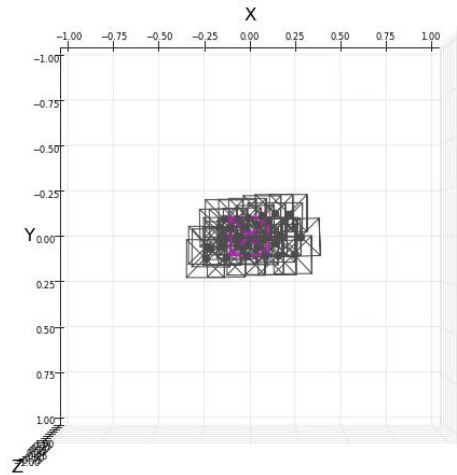
Convergence



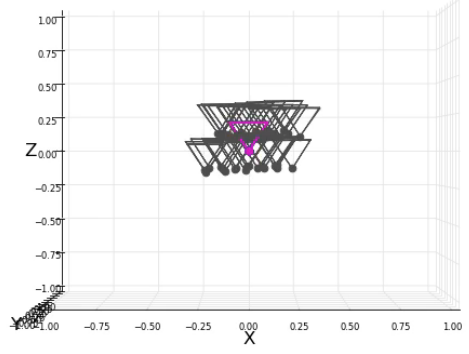
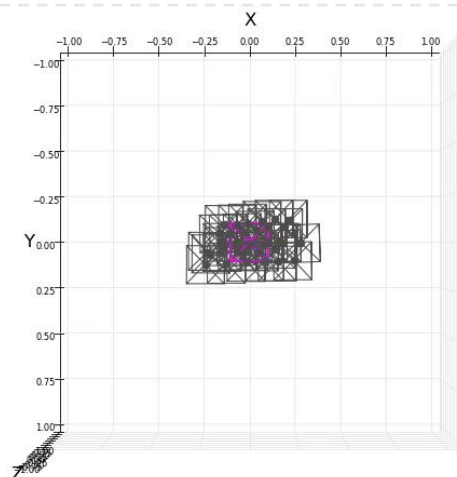
NeRF (3D): Real-World Scenes

Evaluation

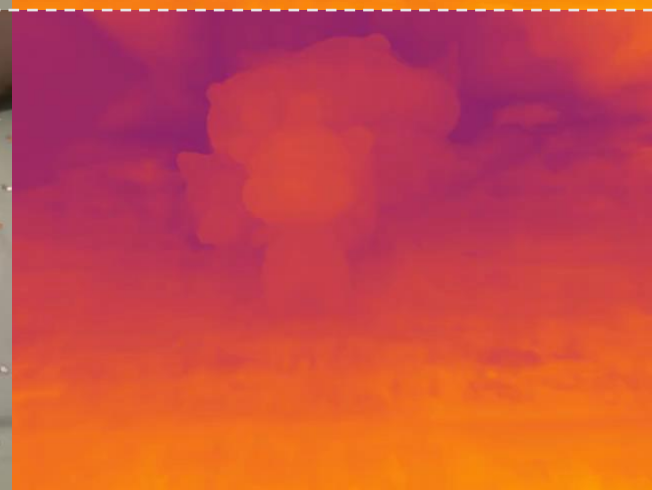
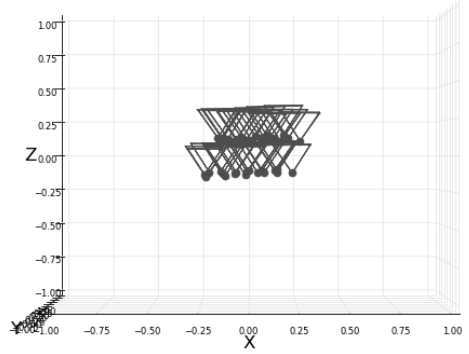
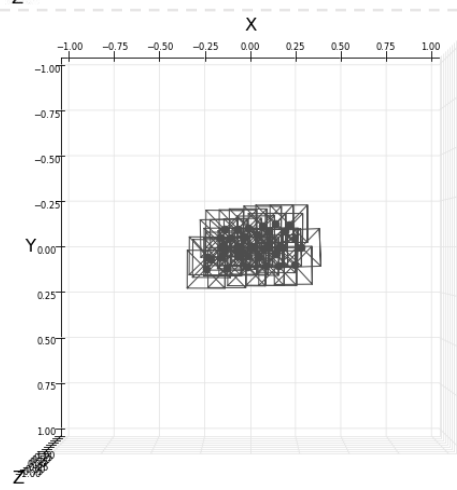
BARF



Ours

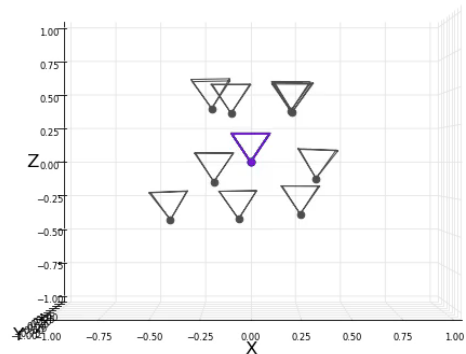
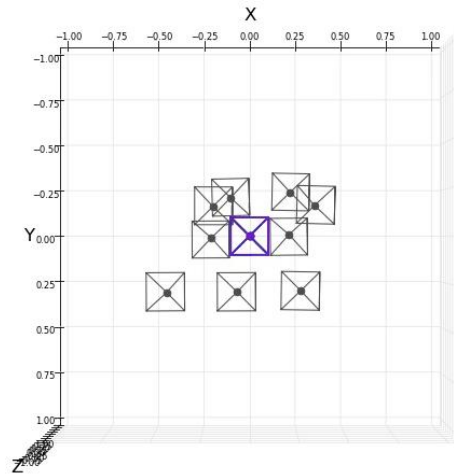


**ref.
NeRF**

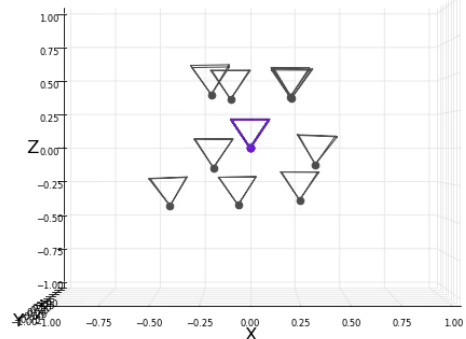
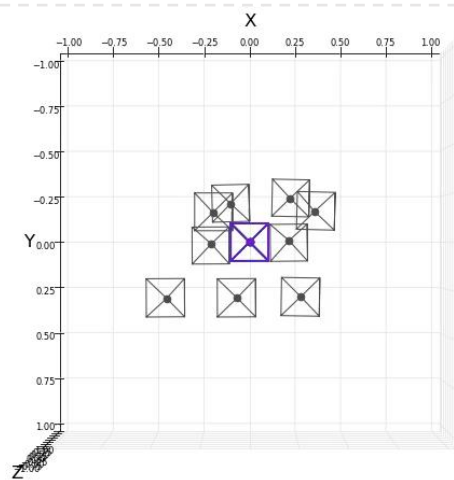


Evaluation

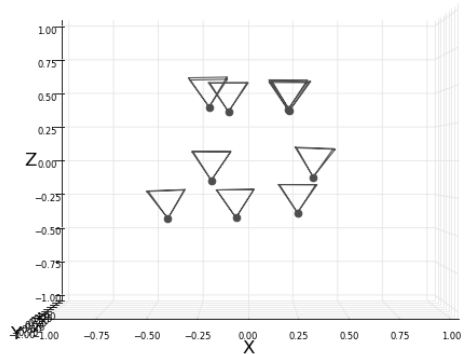
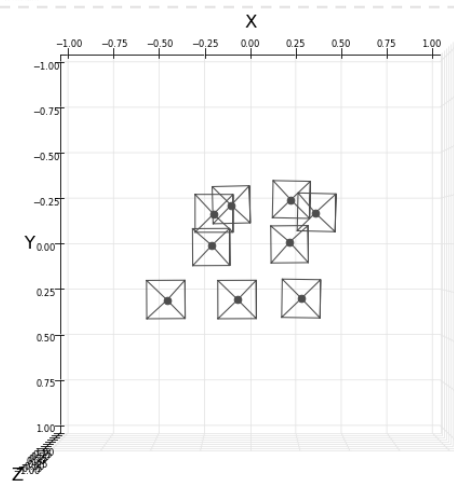
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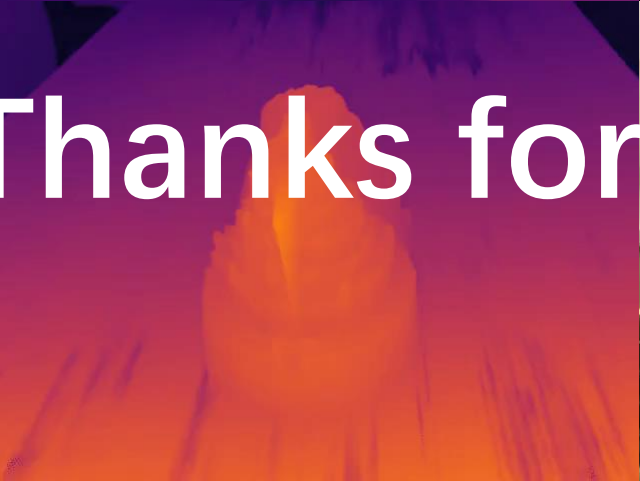
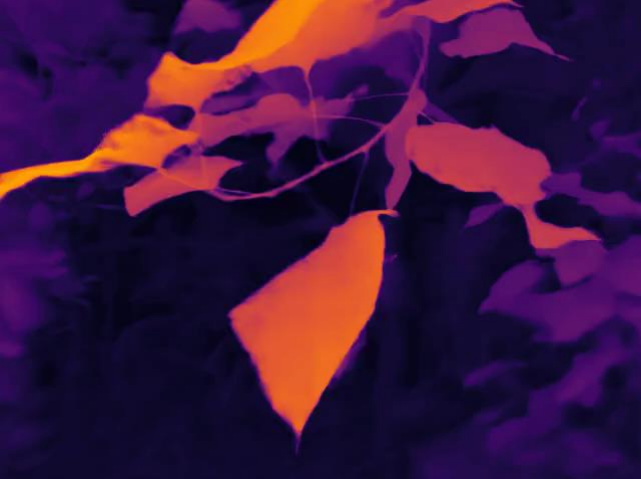
Ours



ref.
NeRF



More results



Thanks for watching!