



Instruct 4D-to-4D: Editing 4D Scenes as Pseudo-3D Scenes Using 2D Diffusion Linzhan Mou[†] Jun-Kun Chen[†] Yu-Xiong Wang

TL; DR

The first method for instruction-guided 4D scene editing, by editing it as a pseudo-3D scene, and distilling from a 2D diffusion model

Task: Instruction-Guided Scene Editing

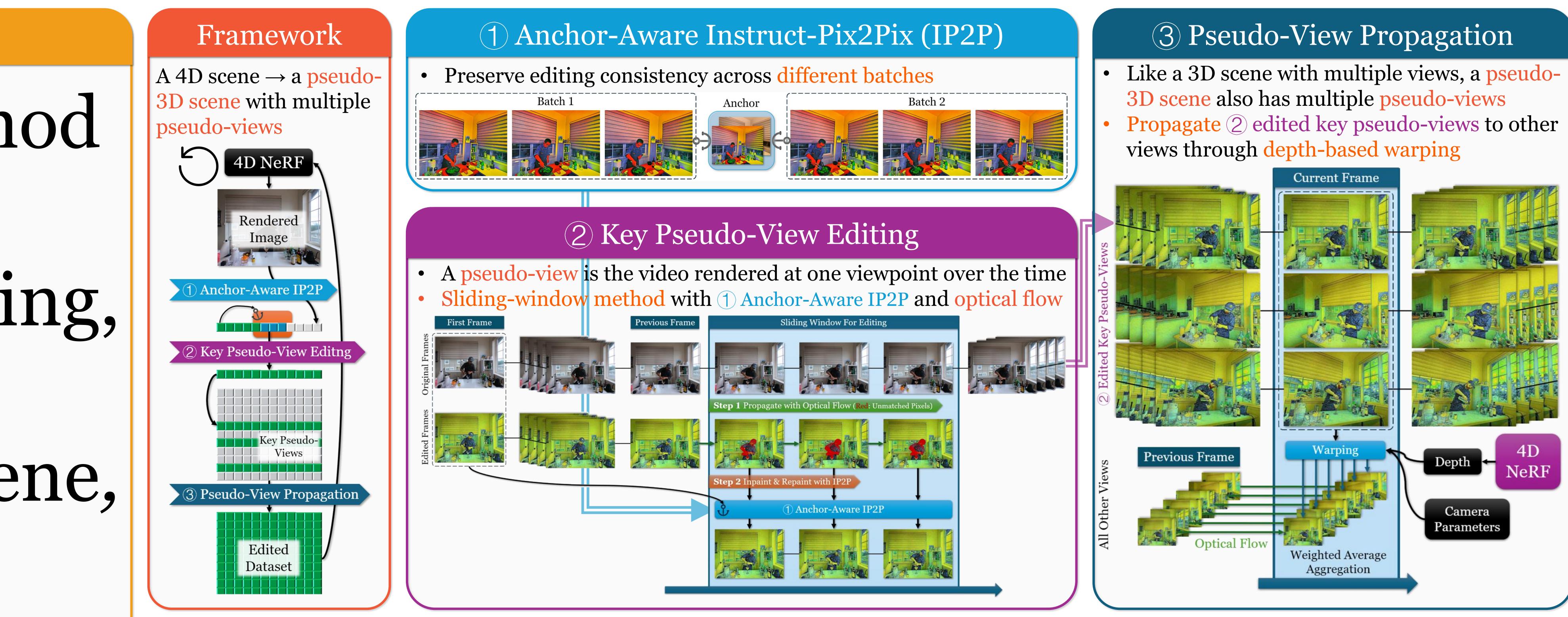


Turn the cat into a fox

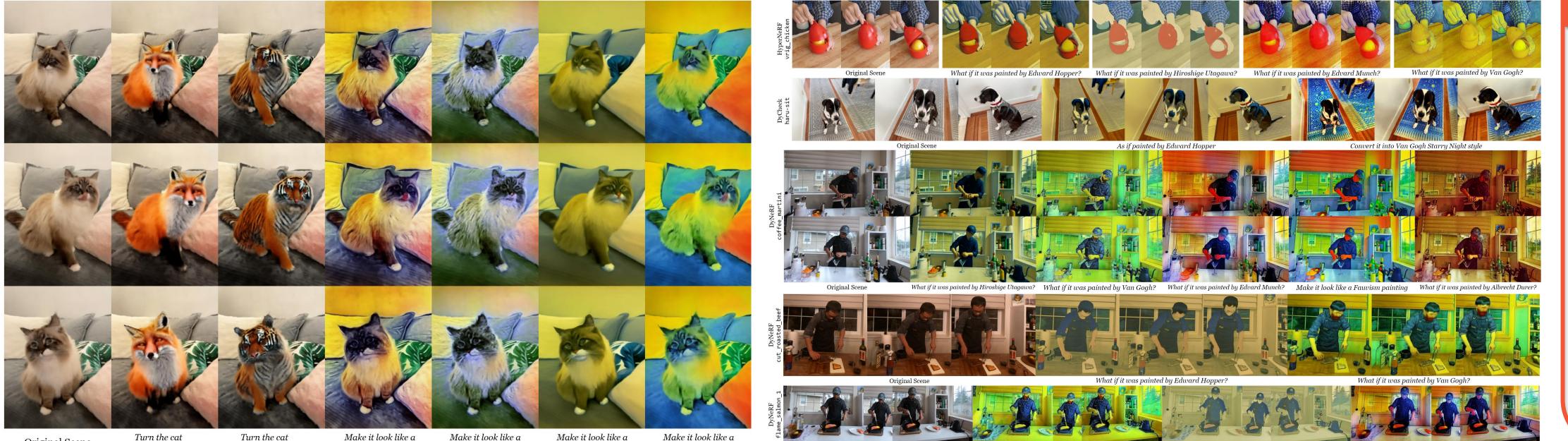
Editing Instruction



Original Scene Edited Scene **Key Challenge**: Achieve spatial and temporal consistency simultaneously



Our **Instruct 4D-to-4D** achieves high-quality, high-fidelity editing results



Original Scene

Turn the cat into a tiger

Make it look like a Edvard Munch painting

Make it look like a

Monet painting Edward Hopper painting Fauvism painting

in both monocular and multi-camera 4D scenes across various tasks



Take-Aways

Instruct 4D-to-4D is the first work to solve general instruction-guided 4D scene editing

Instruct 4D-to-4D edits a 4D scene by regarding it as a pseudo-3D scene, and distilling editing signals from a 2D diffusion model

Instruct 4D-to-4D achieves state-of-the-art editing results with high consistency in both spatial and temporal domains





Paper