

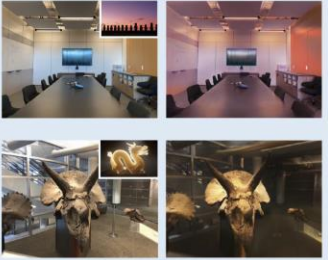
















A survey on 3D editing based on NeRF and 3DGS

Chenyang ZHU, Xinyao LIU, Kai XU, Renjiao YI

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Problems & Ideas

- This survey aims to provide a comprehensive overview of the current landscape of 3D scene editing, with a focus on methods based on NeRF and 3DGS. It encompasses a wide range of 3D editing tasks, including appearance editing, object transformation, shape deformation, scene inpainting, and creative editing

Appearance editing	Object transformation	Shape deformation	Scene inpainting	Creative editing
<p>Photorealistic</p> 	<p>Extract</p>  <p>Delete</p> 	<p>Mesh-based deformation of NeRF</p>  <p>Cage-based deformation of NeRF</p> 	<p>Original</p>  <p>Object removal</p>  <p>2D mask</p>	<p>Dataset Update</p>  <p>“Turn the bear into a polar bear”</p> <p>SDS</p>  <p>“A *giraffe”</p> <p>“A butterfly over a trees tump”</p>  <p>“A V_1 man with a 🍷 beard”</p> 
<p>Non-Photorealistic</p> 	<p>Move</p>  <p>Duplicate</p> 	<p>Mesh-based deformation of 3DGS</p> 	<p>Original scene</p>  <p>Object insertion</p>  <p>Original scene</p> <p>Arbitrary mask</p> <p>Completed scene</p>	

Organization of the survey

- 3D editing tasks:
 - Appearance Editing;
 - Object Transformation;
 - Shape Deformation;
 - Scene Inpainting;
 - Creative Editing.

