

# REArtGS: Reconstructing and Generating Articulated Objects via 3D Gaussian Splatting with Geometric and Motion Constraints

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*5 ByteDance*

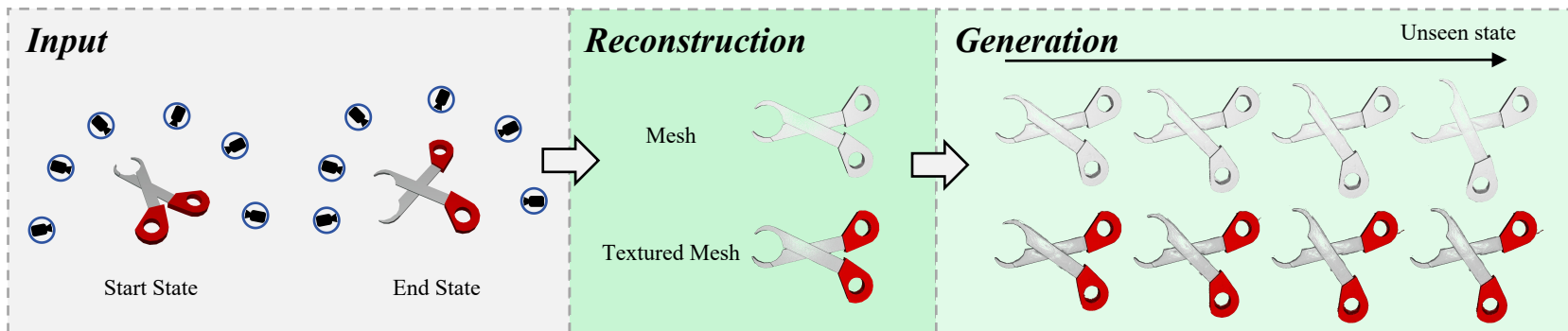
Email: wdcs@mail.ustc.edu.cn, liuliu@hfut.edu.cn



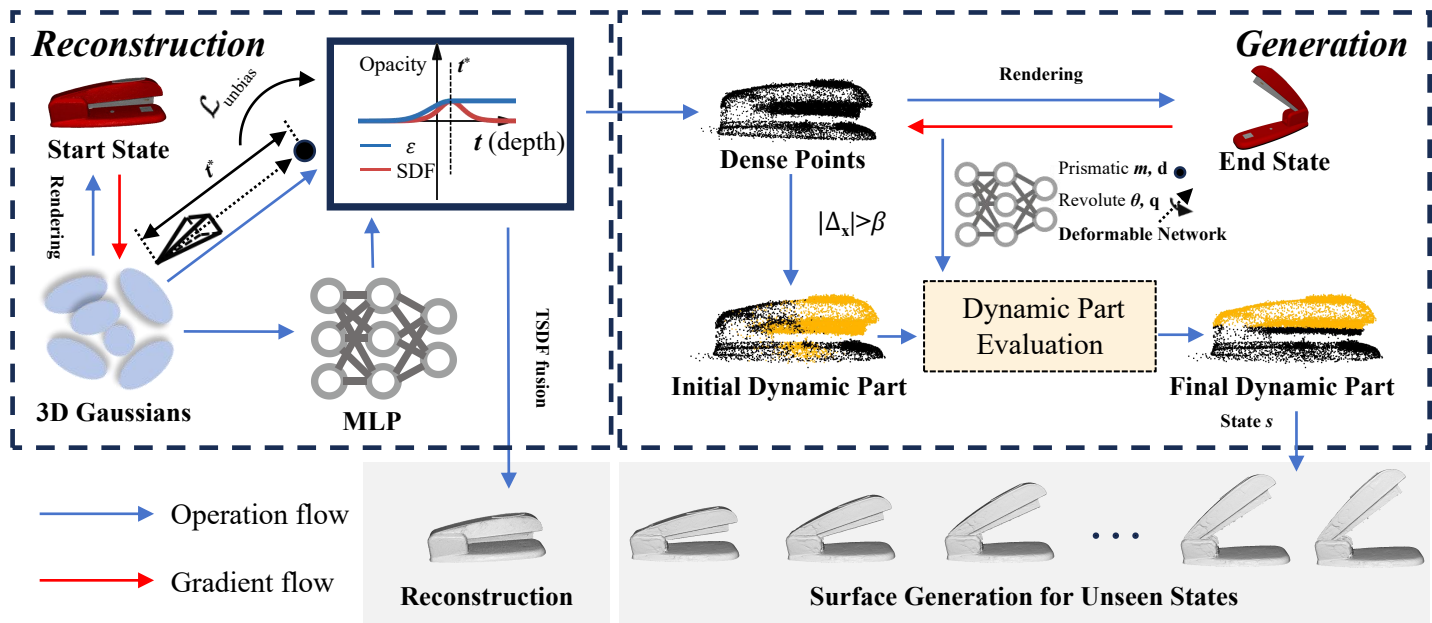
## Motivation and Method

● **Motivation:** using **RGB images** from **two arbitray states** to conduct high-quality **reconstruction** and **generation** at **any unseen state** for articulated objects.

● **Target:**

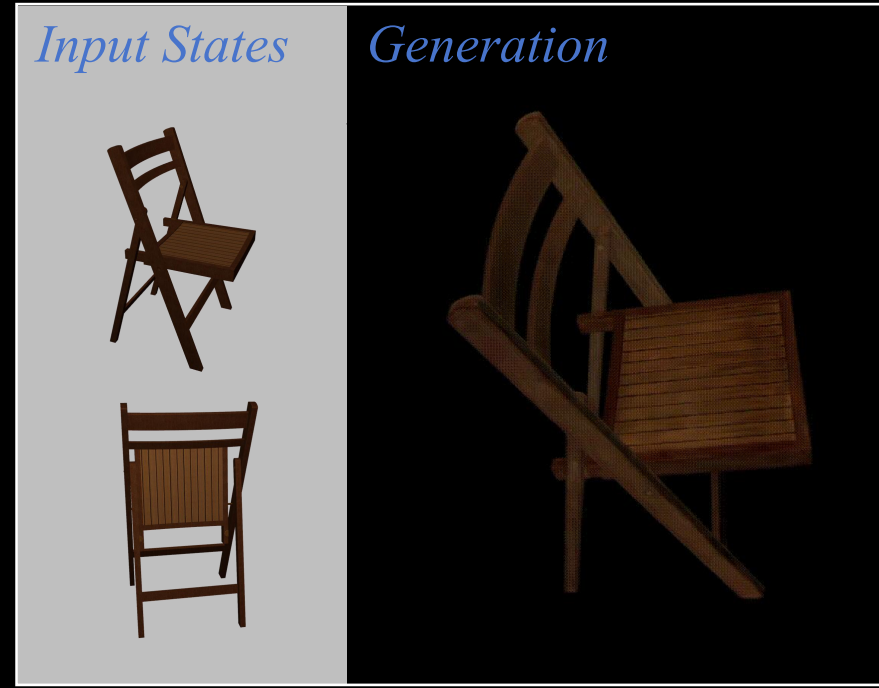
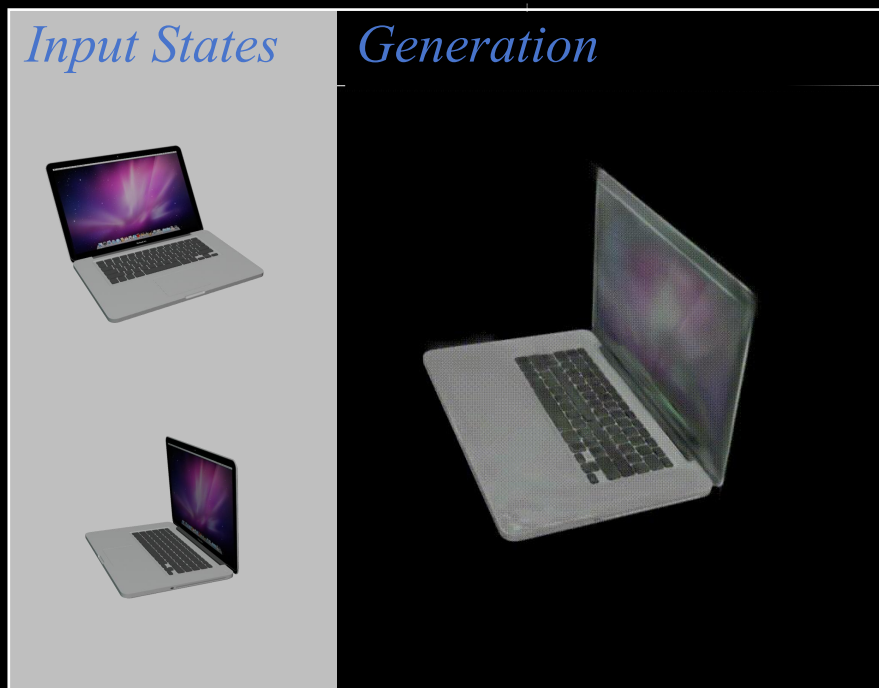
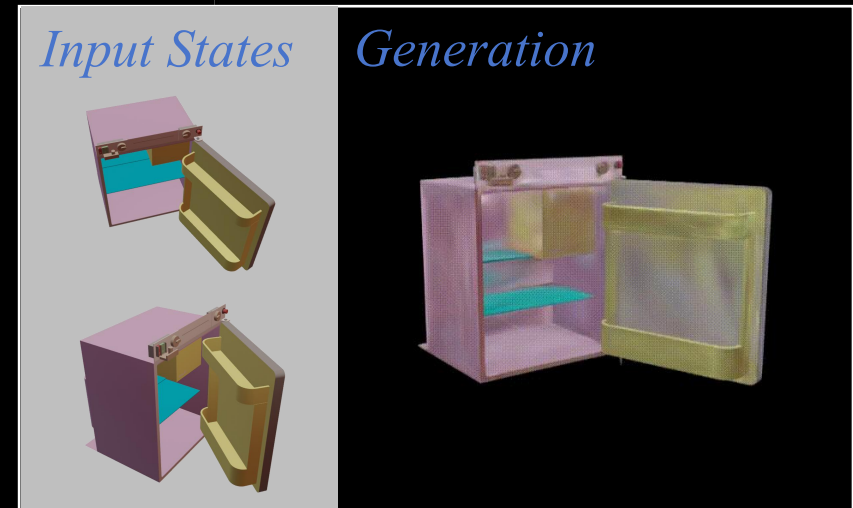
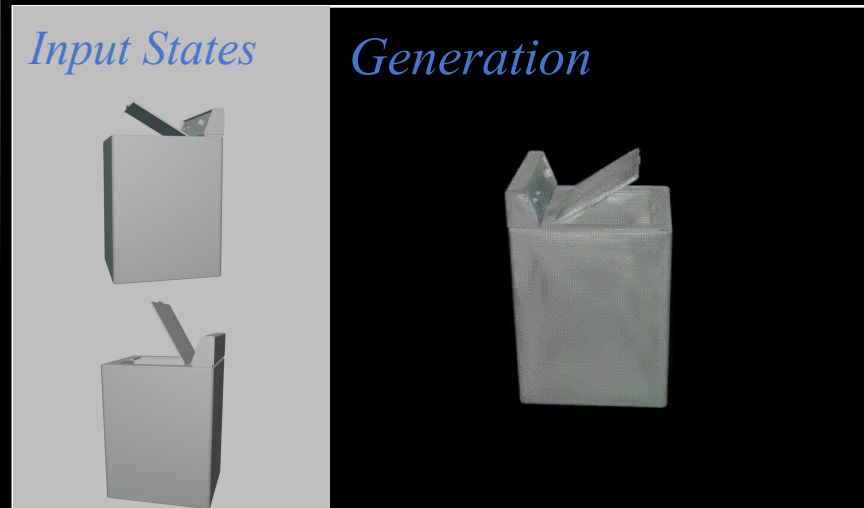
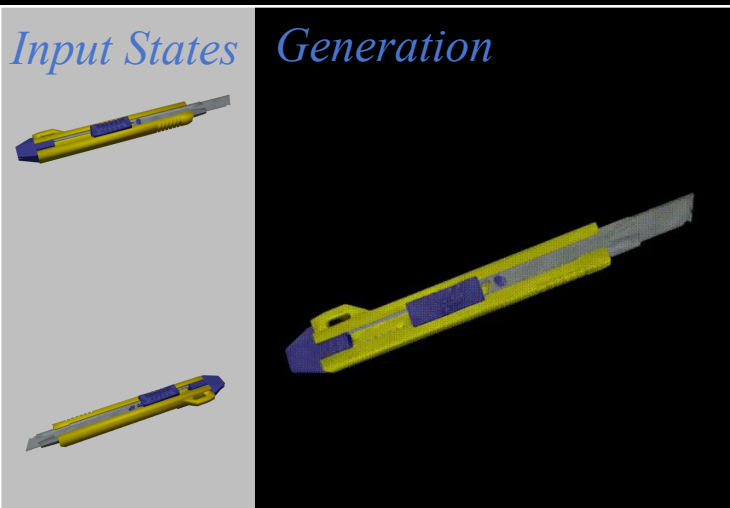


● **Method:**

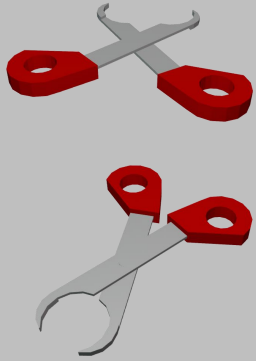


# Dynamic Rendering Results of Articulated Objects on PartNet-Mobility Dataset

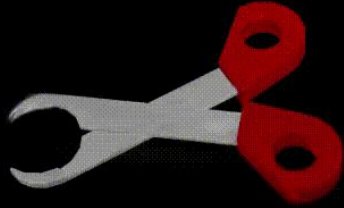




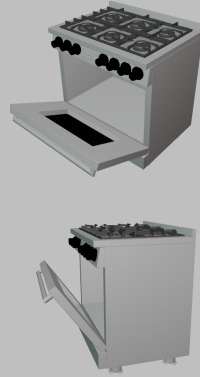
*Input States*



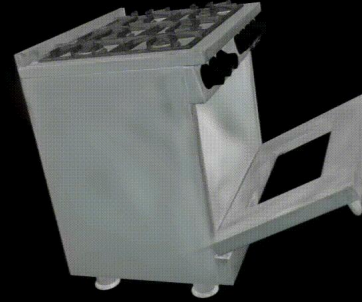
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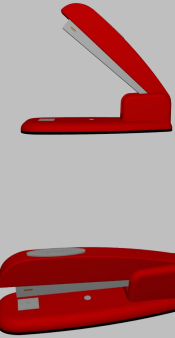
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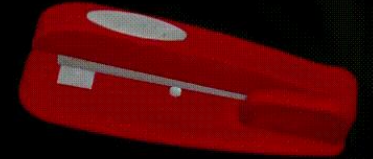
*Generation*



*Input States*



*Generation*



*Input States*



*Generation*



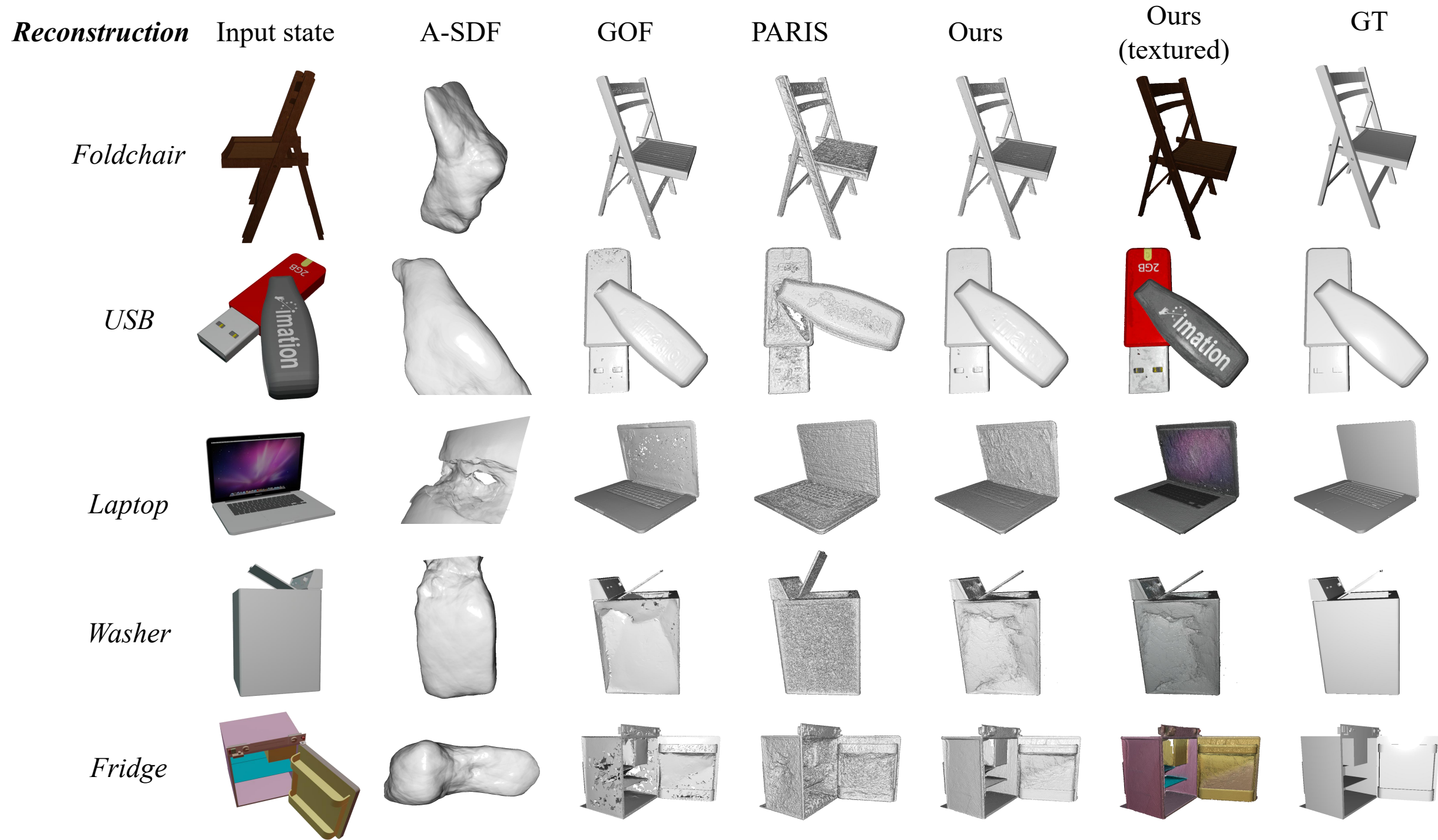
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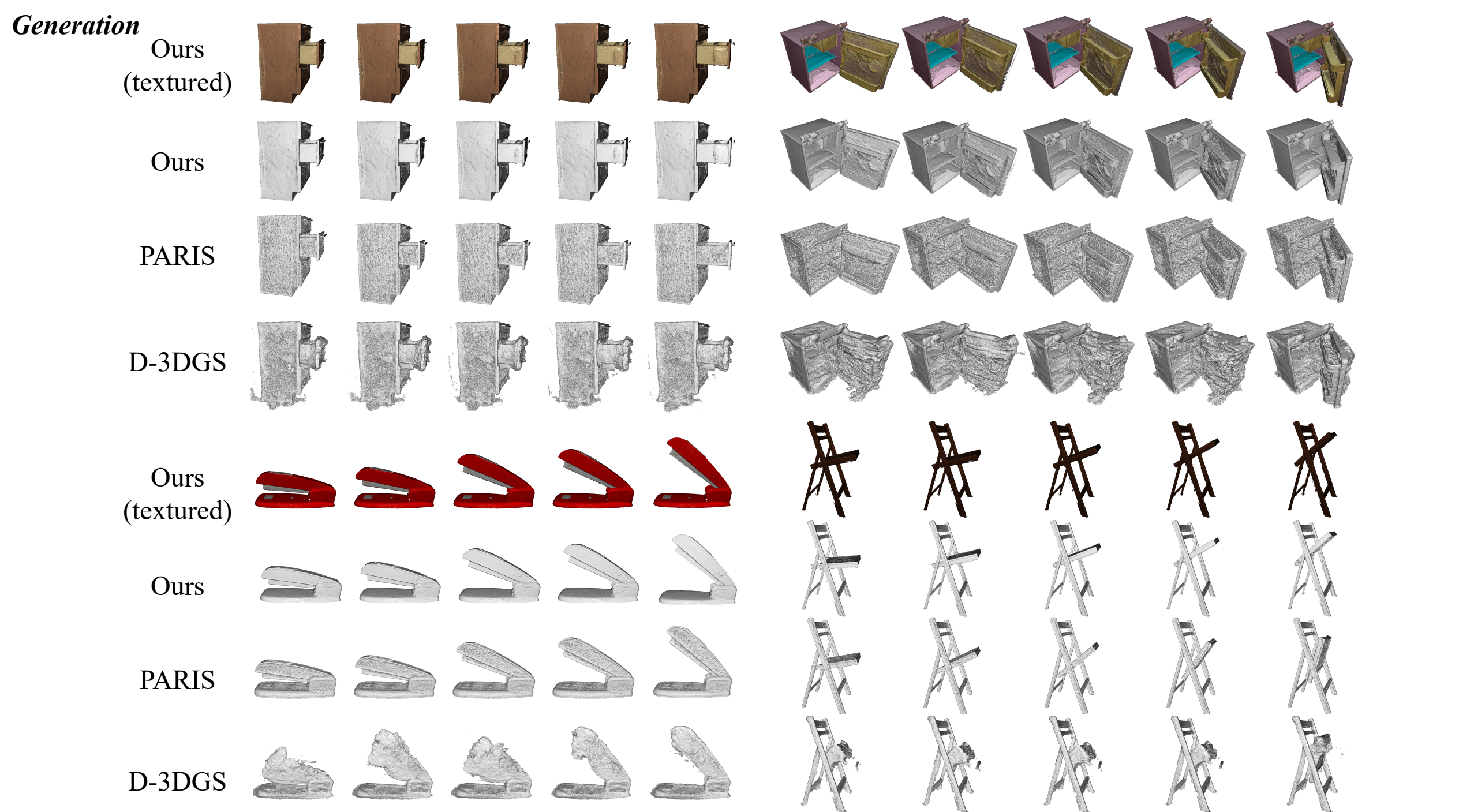
*Generation*



# Mesh Reconstruction and Generation of Articulated Objects on PartNet-Mobility Dataset







# Dynamic Rendering Results of Articulated Objects on Real-World AKB-48 Dataset

*Input States*



*Generation*



*Input States*



*Generation*



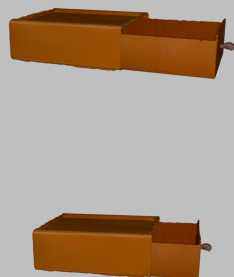
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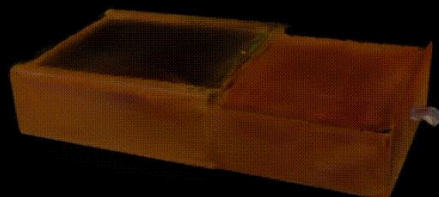
*Generation*



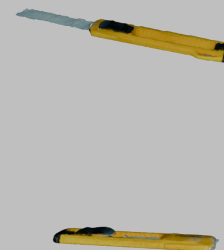
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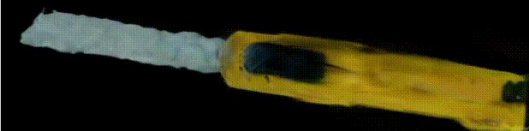
*Generation*



*Input States*



*Generation*



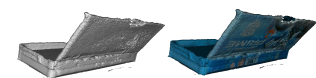
# Mesh Reconstruction and Generation Results of Articulated Objects on Real-World AKB-48 Dataset



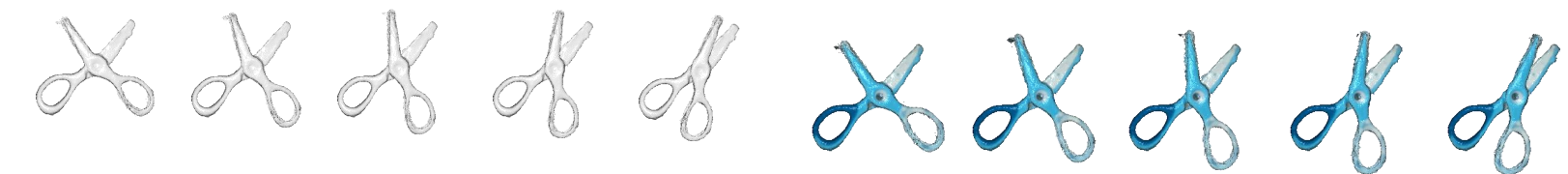
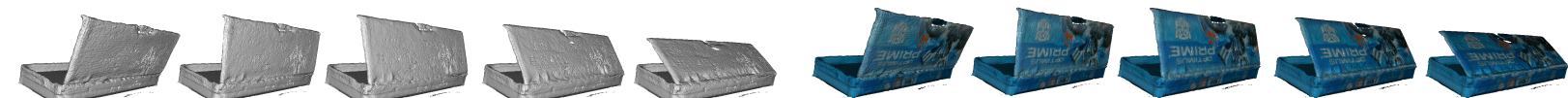
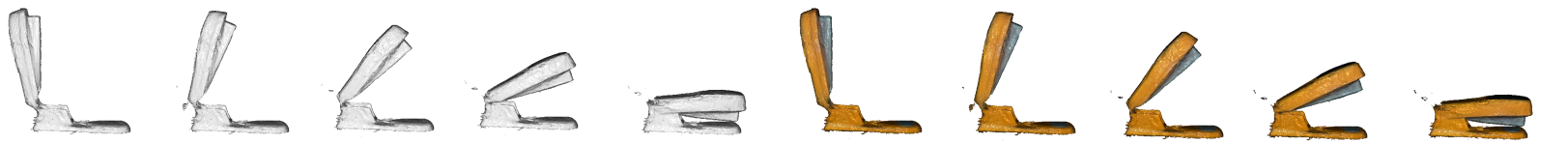
Inputs



Reconstruction



Generation



Codes are available at: <https://github.com/wd-ustc-cs/REArtGS>