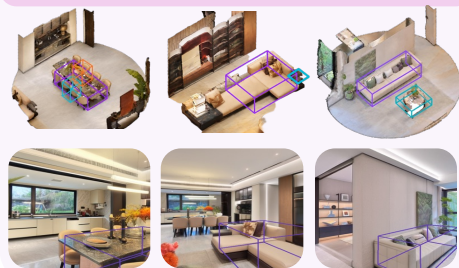


Recon. Mesh



3D Object Detection



3D Grounding

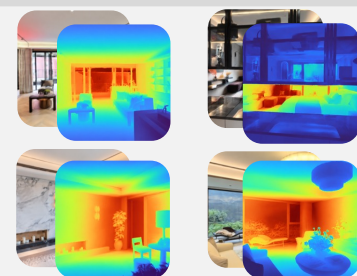


"Cream tufted sofa with green, gray, and pink pillows"



"Beige upholstered dining chair with dark tapered legs"

Rendered Depth



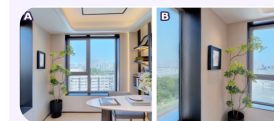
Trajectory Densification



Sparse Panoramic Inputs



Spatial Reasoning



From view B, where is the window seen in view A?

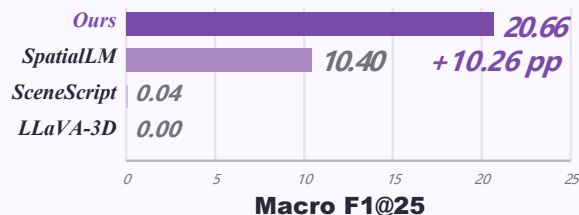
Answer: front-right.



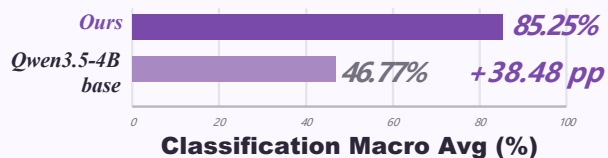
In panorama A, identify the **cabinet**. Locate the same object in panorama B. Which direction is it from camera B?

Answer: Left.

3D grounding



Holi360bench



Holi360 Dataset

- 1K+ Multi-room 3DGS
- 100K+ Verified 3D Instances
- 2M Spatial Q&A Pairs