

Training Model 종류 변경하여 비교해보기

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길다영

<https://velog.io/@arittung/3D-Room-Reconstruction-Using-HorizonNet-Network-%EC%A2%85%EB%A5%98-%EB%8B%A4%EB%A5%B4%EA%B2%8C-%ED%95%B4%EA%B0%80%EB%A9%B4%EC%84%9C-%EB%B9%84%EA%B5%90> 참고.

<https://github.com/sunset1995/HorizonNet> 참고.

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1 Trained Model 종류

- Trained Model 종류
- 입력 이미지

1 Trained Model 종류

● Panos2d3d.pth

● st3d.pth

자세한 내용은 <https://velog.io/@arittung/3D-Room-Reconstruction-Using-HorizonNet-Dataset-panos2d3d-st3d> 참고.

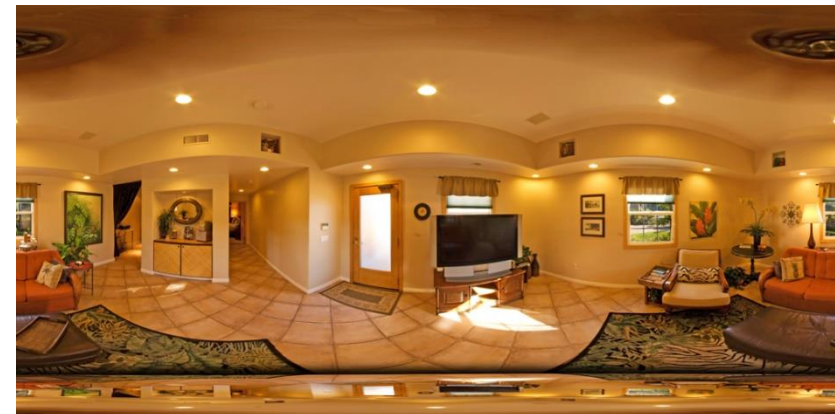
1 Network 종류와 기본 설정 - 입력 이미지



Pano_01.png



Pano_07.png



Pano_13.png



Pano_15.png



Pano_18.png



Pano_20.png

1 Network 종류와 기본 설정 - 입력 이미지



Pano_08.png



Pano_21.png



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Pano_24.png



2 결과 분석

- 결과 분석
- 결과 비교

2 결과 분석 - 결과 분석

- 확실히 panos2d3d.pth보다 st3d.pth가 훨씬 성능이 좋았다.

🤔 왜냐..?

Panos2d3d 는 300epoch로 trained된 반면 st3d는 50epoch로 trained 되었는데도 st3d가 좋음.




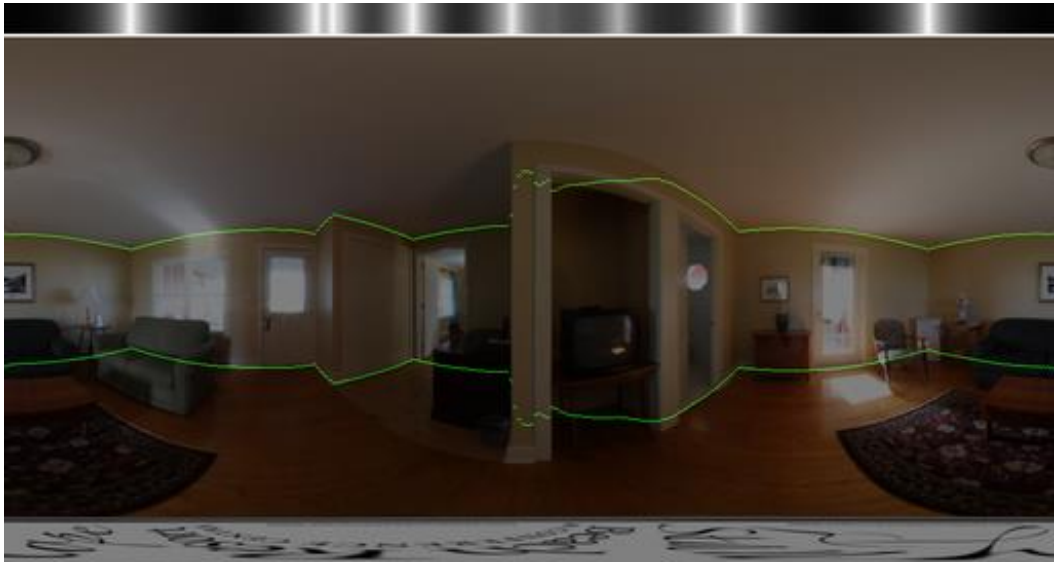
🤔 내가 생각하는 이유

- ① 검증 세트에서 Loss function에 따라 50th epoch를 선택
- ② 원래 가구와 빛의 세팅을 가진 이미지를 트레이닝 시켜서.. → 그렇담 panos2d3d는 이렇게 트레이닝 시키지 않은건가?

retrained Models

- [resnet50_rnn__panos2d3d.pth](#)
 - Trained on PanoContext/Stanford2d3d 817 pano images.
 - Trained for 300 epoch
- [resnet50_rnn__st3d.pth](#)
 - Trained on Structured3D 18362 pano images with setting of original furniture and lighting.
 - Trained for 50 epoch.
 - Select 50th epoch according to loss function on validation set.

2 결과 분석 - 결과 비교

Img_name	Panos2d3d.pth	St3d.pth
Pano_01		
		

2 결과 분석 - 결과 비교

Img_name	Panos2d3d.pth	St3d.pth
Pano_07		
		

2 결과 분석 - 결과 비교

Img_name	Panos2d3d.pth	St3d.pth
Pano_08	 <p>This image shows a 3D reconstruction of a room interior using the Panos2d3d.pth model. The view is from a high angle, looking down into a room with red walls, a large window, and a curved sofa. The reconstruction is somewhat blurry and lacks fine detail.</p>	 <p>This image shows a 3D reconstruction of the same room interior using the St3d.pth model. The view is from a high angle, looking down into a room with red walls, a large window, and a curved sofa. The reconstruction is sharper and more detailed than the one from Panos2d3d.pth.</p>

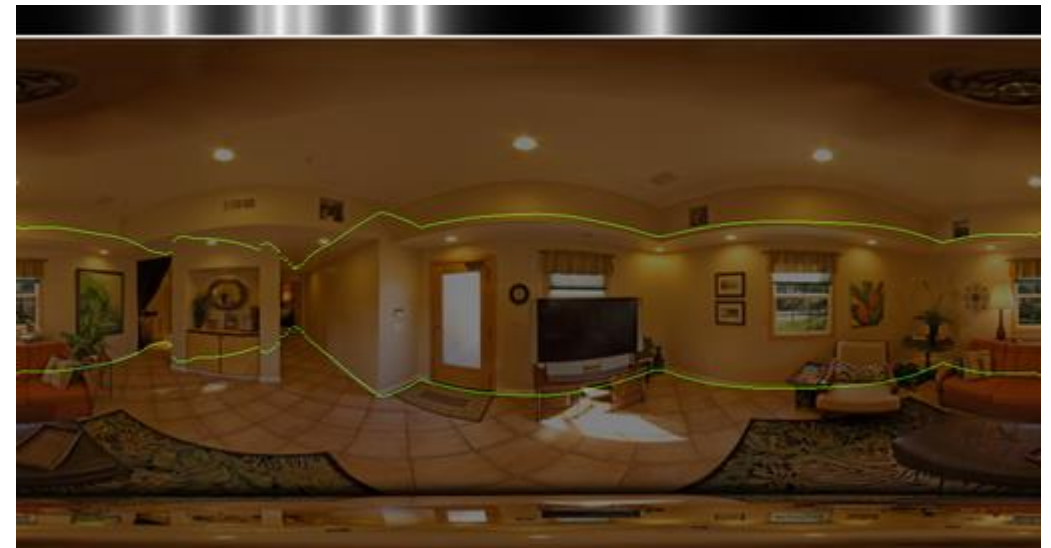
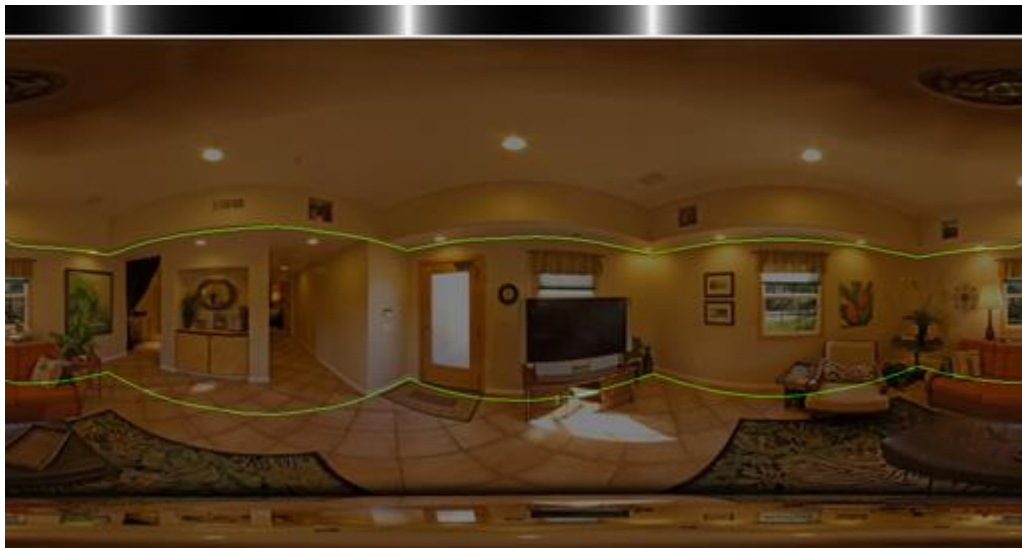
2 결과 분석 - 결과 비교

Img_name

Panos2d3d.pth

St3d.pth

Pano_13



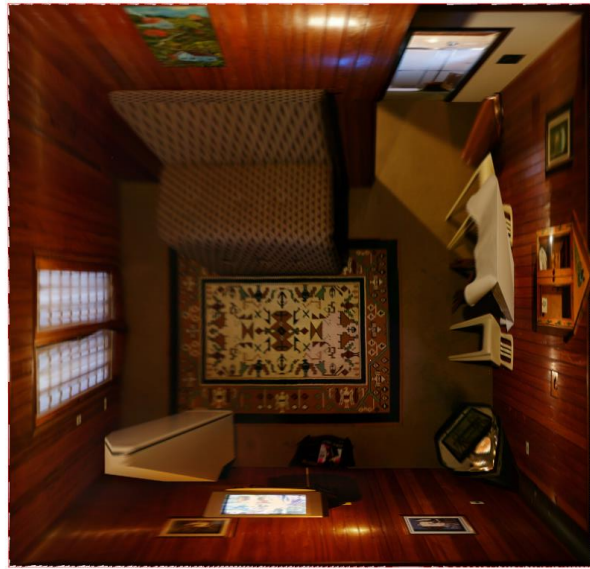
2 결과 분석 - 결과 비교

Img_name

Panos2d3d.pth

St3d.pth

Pano_14



2 결과 분석 - 결과 비교

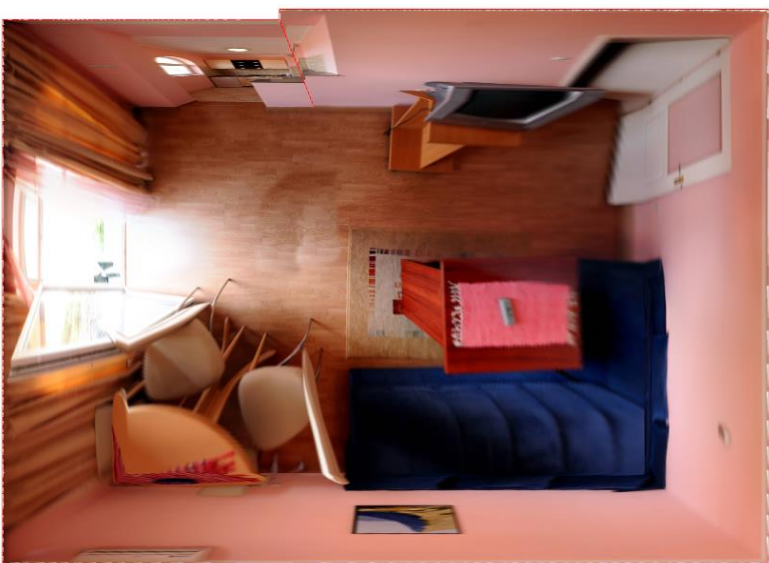
Img _name	Panos2d3d.pth	St3d.pth
Pano_15	 A 3D perspective view of a room interior. The room features a desk with a computer monitor and keyboard, a chair, a window with a patterned curtain, and a bed with a patterned coverlet. The lighting is warm, and the overall scene is rendered with a high level of detail.	 A 3D perspective view of the same room interior, rendered using St3d.pth. The scene is very similar to the one in the Panos2d3d.pth image, showing the desk, chair, window, and bed. The lighting and details are consistent with the first image.
	 A 3D perspective view of the same room interior, rendered using Panos2d3d.pth. The scene is overlaid with a green wireframe mesh, highlighting the 3D structure of the room. The mesh is composed of many small, interconnected triangles, forming a complete 3D model of the room.	 A 3D perspective view of the same room interior, rendered using St3d.pth. The scene is overlaid with a green wireframe mesh, highlighting the 3D structure of the room. The mesh is composed of many small, interconnected triangles, forming a complete 3D model of the room.

2 결과 분석 - 결과 비교

Img_name

Panos2d3d.pth

St3d.pth



Pano_18



2 결과 분석 - 결과 비교

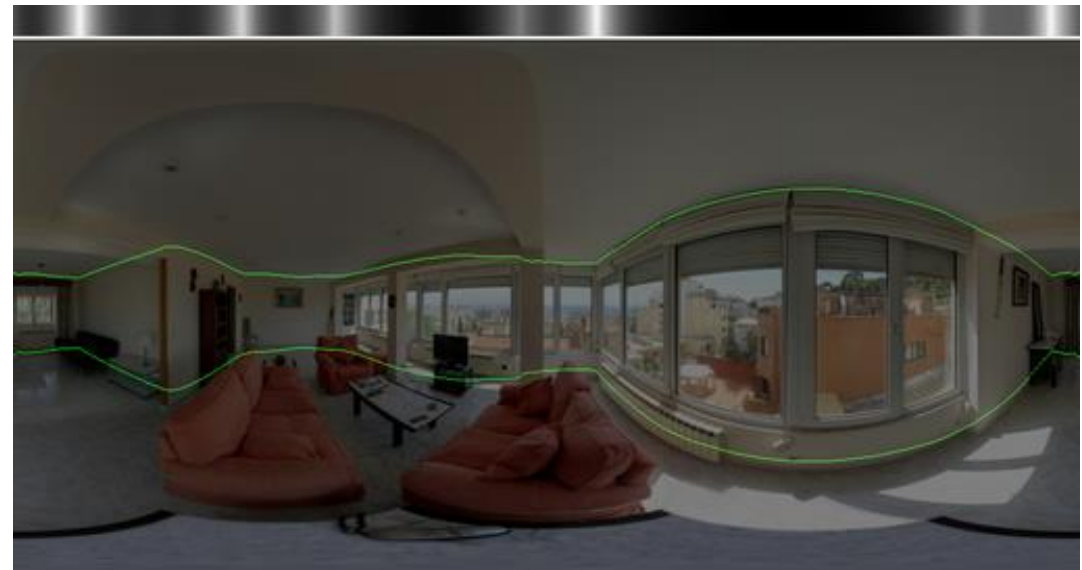
Img_name

Panos2d3d.pth

St3d.pth



Pano_20

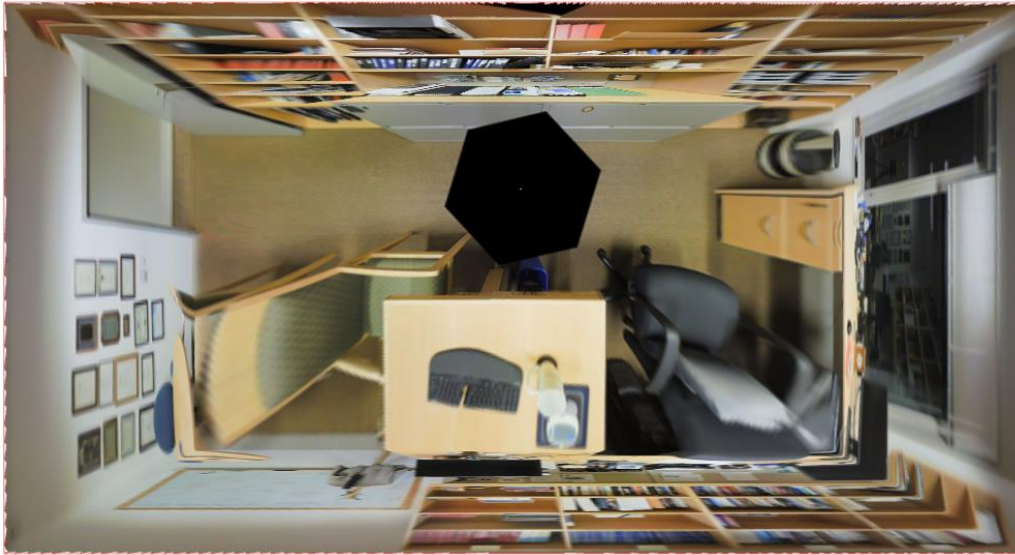


2 결과 분석 - 결과 비교

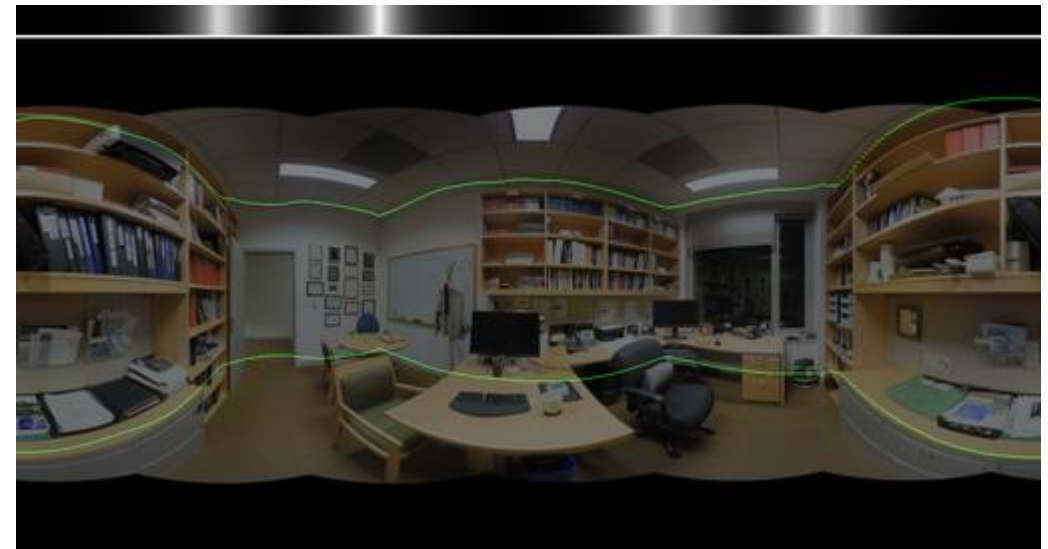
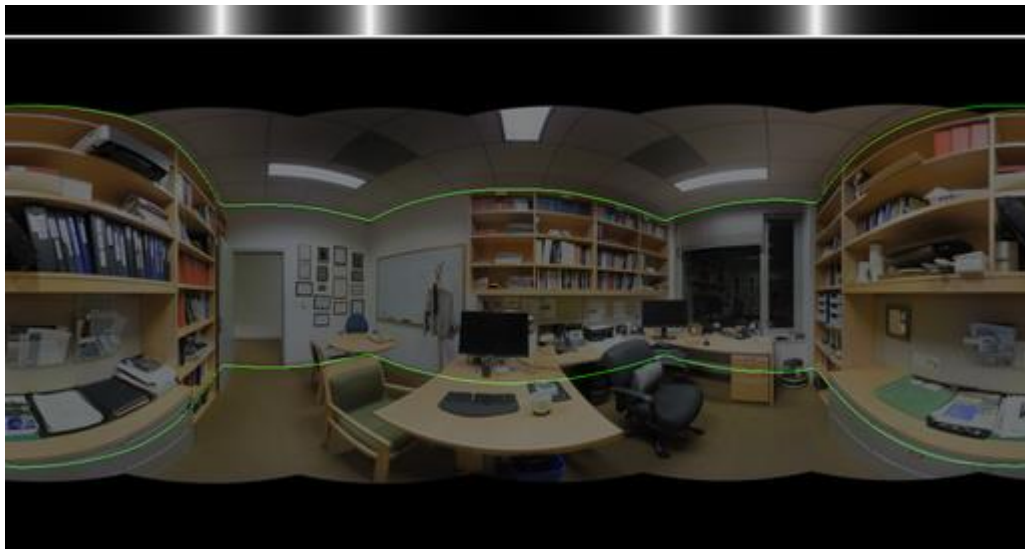
Img_name

Panos2d3d.pth

St3d.pth



Pano_21

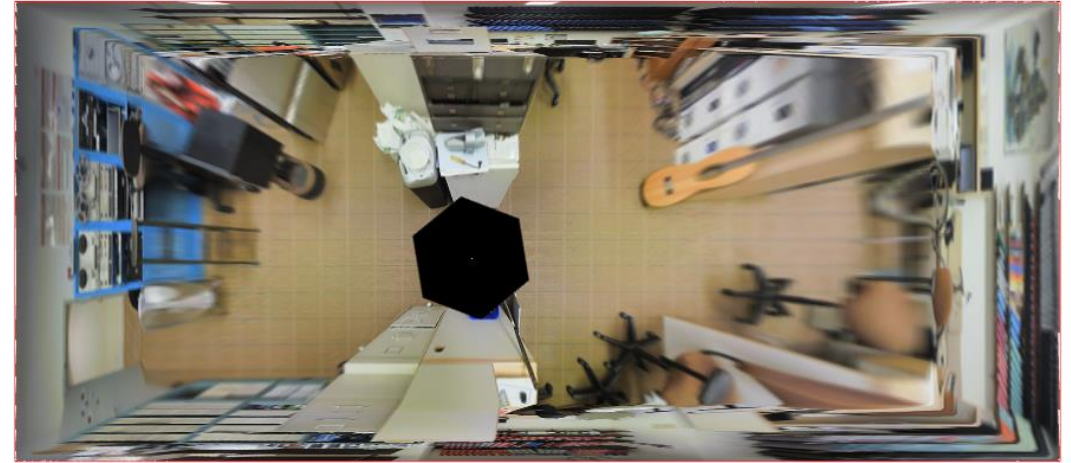
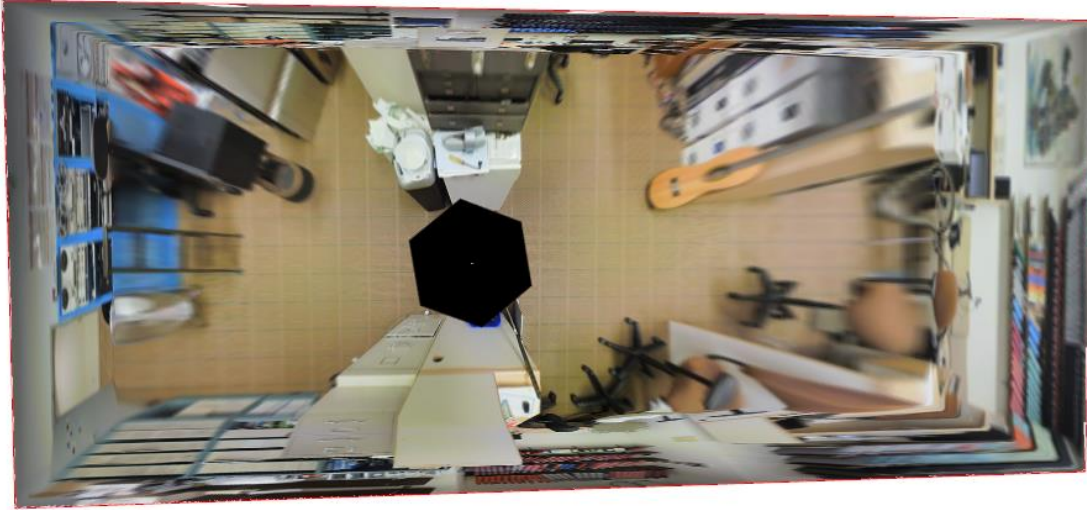


2 결과 분석 - 결과 비교

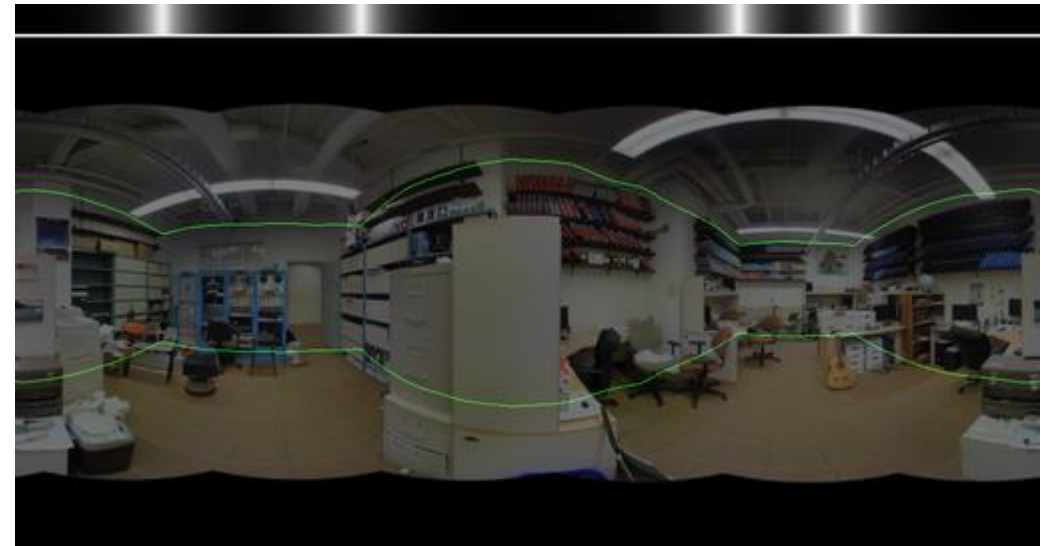
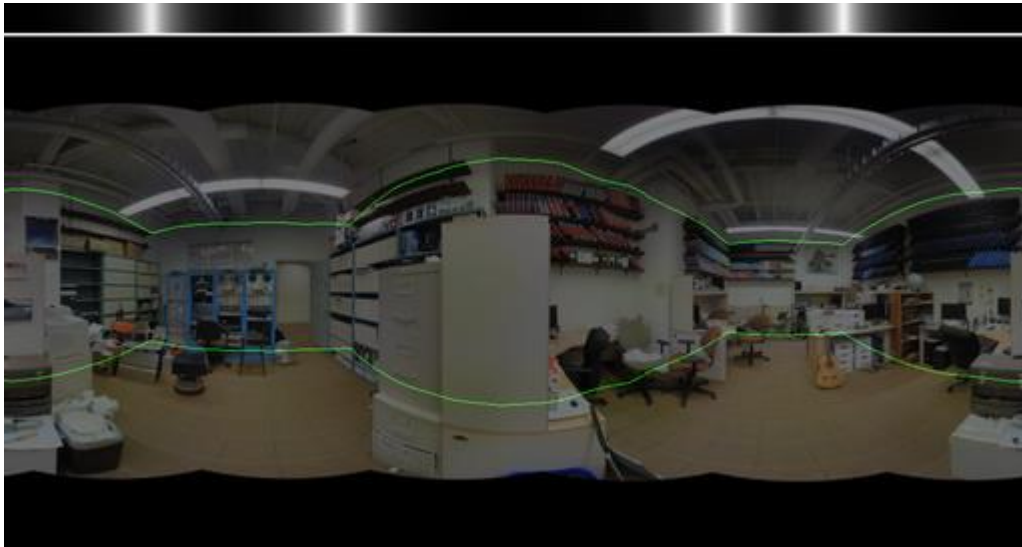
Img_name

Panos2d3d.pth

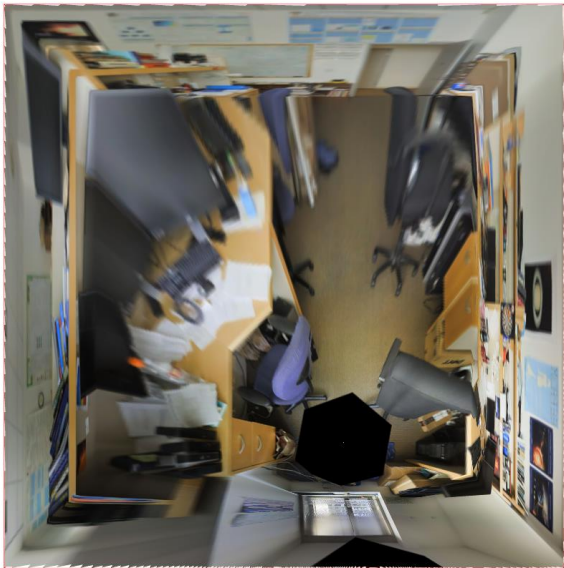
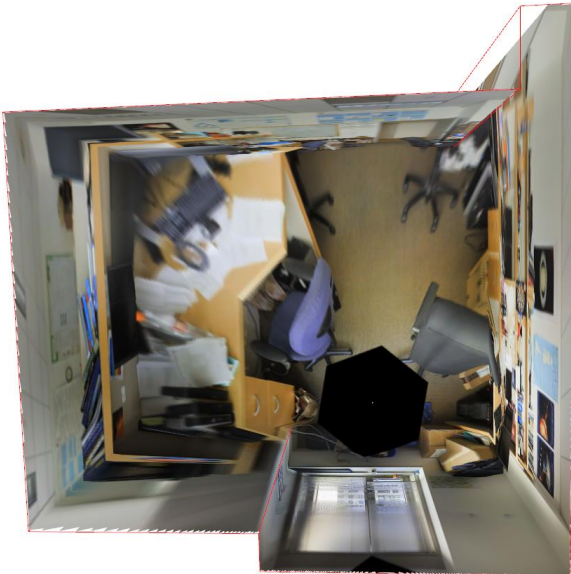
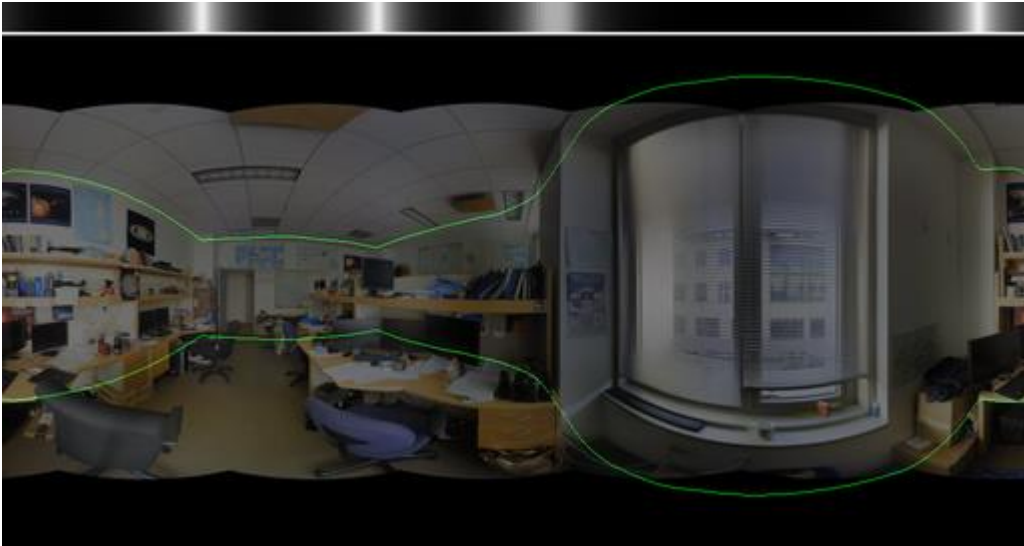
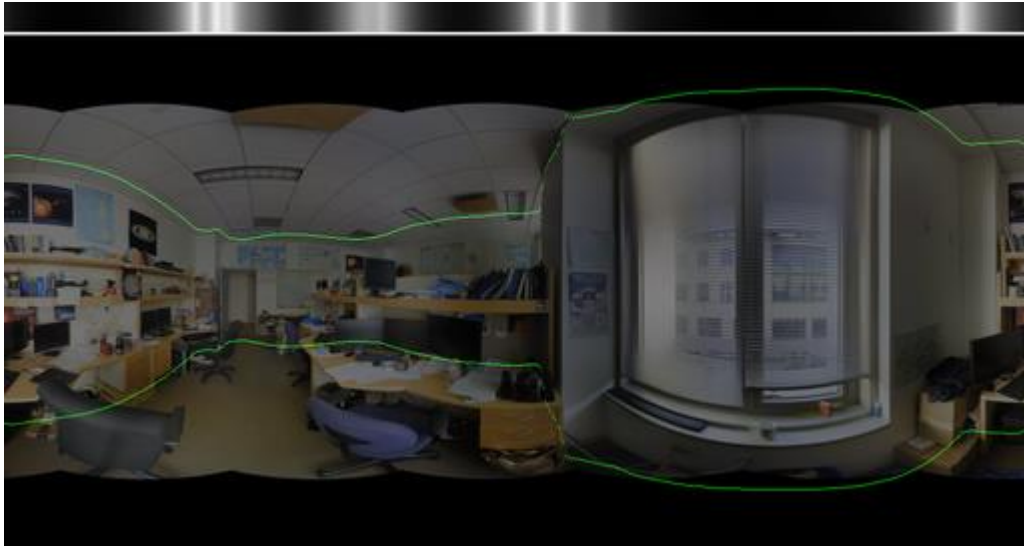
St3d.pth



Pano_22



2 결과 분석 - 결과 비교

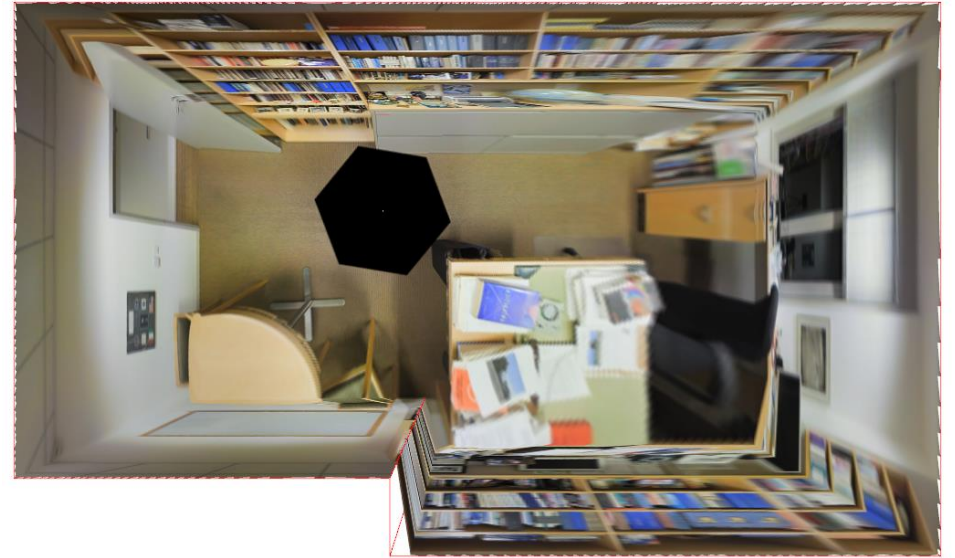
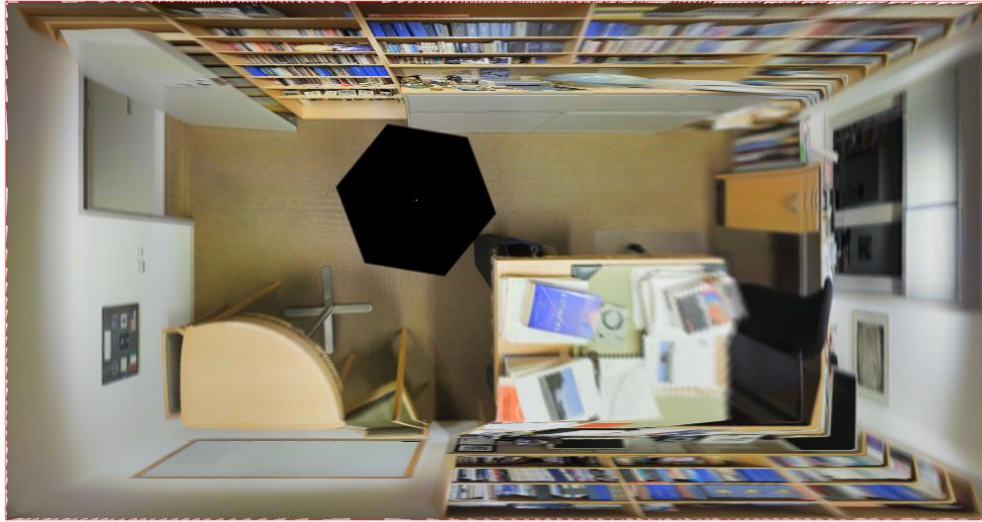
Img_name	Panos2d3d.pth	St3d.pth
Pano_23		
		

2 결과 분석 - 결과 비교

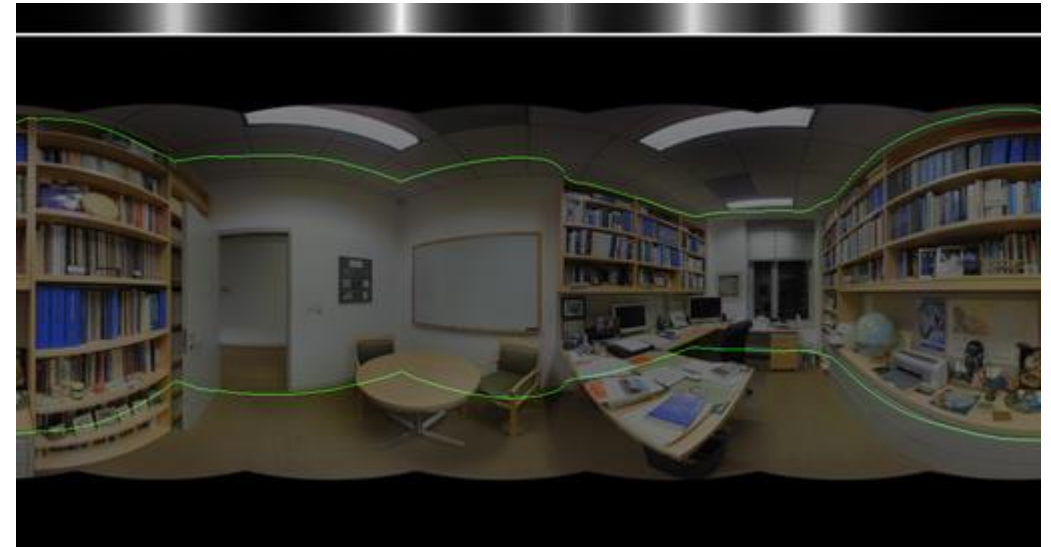
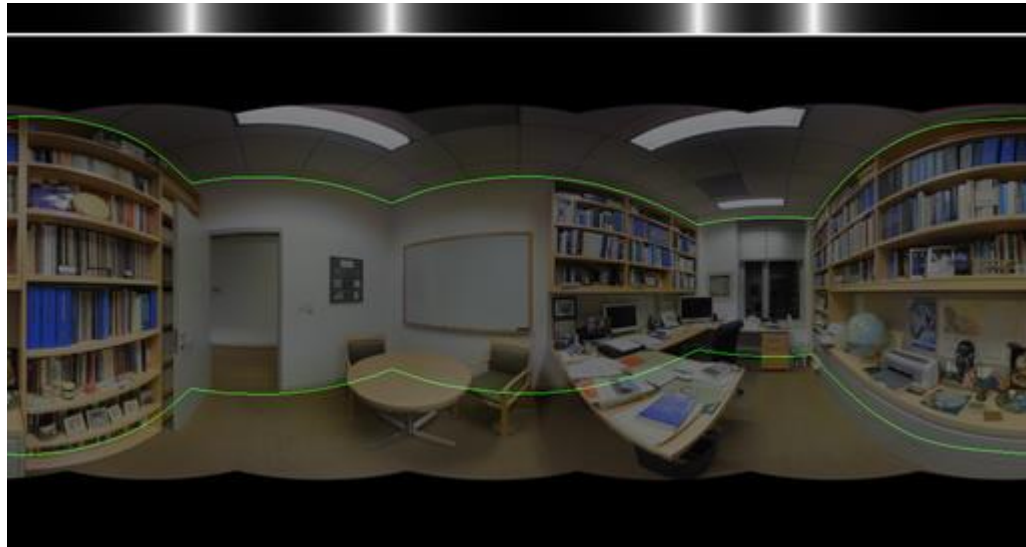
Img_name

Panos2d3d.pth

St3d.pth



Pano_24



THANK YOU

The End