
Supplementary Material for Cooperative Holistic Scene Understanding: Unifying 3D Object, Layout, and Camera Pose Estimation

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3D Object Detection

We report results of 3D object detection of 30 object categories in Table 1.

Table 1: Comparisons of 3D object detection on SUN RGB-D.

toilet	recycle_bin	night_stand	endtable	drawer	computer	keyboard	table	chair	monitor	stool
58.55	10.19	6.34	8.88	4.39	0.83	0.58	26.21	17.12	0.26	6.25
lamp	dresser	picture	garbage_bin	shelf	sofa_chair	cabinet	sink	desk	bookshelf	coffee_table
1.75	4.28	0	7.54	3.01	32.34	2.63	5.34	9.55	2.37	11.42
box	sofa	whiteboard	bed	cpu	paper	painting	pillow	mAP		
1.24	41.22	0.38	63.58	3.70	0	0	2.24	11.07		

3D Box Estimation

We report results of 3D IoU and 2D IoU of 30 object categories in Table 2.

Table 2: 3D box estimation results on SUN RGB-D.

	toilet	recycle_bin	night_stand	endtable	drawer	computer	keyboard	table	chair	monitor	
IoU (3D)	25.08	13.17	12.50	16.24	15.78	5.21	2.89	20.77	15.66	5.36	
IoU (2D)	72.53	69.69	69.38	74.58	64.13	67.80	58.20	71.20	68.10	60.84	
	stool	lamp	dresser	picture	garbage_bin	shelf	sofa_chair	cabinet	sink	desk	bookshelf
	9.17	5.88	9.29	1.03	10.13	6.90	24.03	10.07	9.87	15.64	7.10
	74.52	63.80	69.28	51.96	67.66	62.14	75.05	69.09	59.34	70.10	59.22
	coffee_table	box	sofa	whiteboard	bed	cpu	paper	painting	pillow	mIoU	
	23.82	4.88	27.92	2.36	33.12	8.99	0.09	0.47	5.18	11.62	
	75.27	60.85	74.45	63.20	75.74	65.09	60.54	61.71	62.98	66.6	

More Results























































































































































































































