
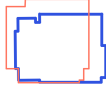



SUPPLEMENTARY MATERIAL OF GPR-NET: MULTI-VIEW LAYOUT ESTIMATION VIA A GEOMETRY-AWARE PANORAMA REGISTRATION NETWORK

Anonymous authors















Paper under double-blind review















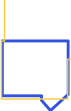
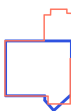
We show visual comparisons with other competing methods. The first column shows two input panoramas with their estimated layouts. The remaining columns show the ground-truth layout, our layouts, LED²-Net’s layouts, and LGT-Net’s layouts in **blue**, **green**, **yellow**, **red**, respectively.


	2D IoU: 0.9209, 3D IoU: 0.9052	2D IoU: 0.5245, 3D IoU: 0.5178	2D IoU: 0.8069, 3D IoU: 0.8046
			
	2D IoU: 0.9234, 3D IoU: 0.9167	2D IoU: 0.7580, 3D IoU: 0.7476	2D IoU: 0.6197, 3D IoU: 0.5998
			
	2D IoU: 0.9210, 3D IoU: 0.9136	2D IoU: 0.6757, 3D IoU: 0.6731	2D IoU: 0.6824, 3D IoU: 0.6757
			
	2D IoU: 0.9335, 3D IoU: 0.9239	2D IoU: 0.5823, 3D IoU: 0.5822	2D IoU: 0.6157, 3D IoU: 0.6098
			
Input	Ours	LED ² -Net	LGT-Net

REFERENCES






















	2D IoU: 0.9276, 3D IoU: 0.9255	2D IoU: 0.6837, 3D IoU: 0.6752	2D IoU: 0.6495, 3D IoU: 0.6332
			
	2D IoU: 0.9237, 3D IoU: 0.9204	2D IoU: 0.5119, 3D IoU: 0.5102	2D IoU: 0.5617, 3D IoU: 0.5598
			
	2D IoU: 0.9297, 3D IoU: 0.9253	2D IoU: 0.6960, 3D IoU: 0.6960	2D IoU: 0.6776, 3D IoU: 0.6582
			
	2D IoU: 0.9457, 3D IoU: 0.9168	2D IoU: 0.7174, 3D IoU: 0.7103	2D IoU: 0.7557, 3D IoU: 0.7433
			
	2D IoU: 0.9327, 3D IoU: 0.9262	2D IoU: 0.5784, 3D IoU: 0.5759	2D IoU: 0.5920, 3D IoU: 0.5904
			
Input	Ours	LED ² -Net	LGT-Net

	2D IoU: 0.9250, 3D IoU: 0.8778	2D IoU: 0.7412, 3D IoU: 0.7172	2D IoU: 0.6755, 3D IoU: 0.6634
			
	2D IoU: 0.9331, 3D IoU: 0.9248	2D IoU: 0.7391, 3D IoU: 0.7342	2D IoU: 0.3457, 3D IoU: 0.3439
			
	2D IoU: 0.9313, 3D IoU: 0.9101	2D IoU: 0.6832, 3D IoU: 0.6652	2D IoU: 0.6759, 3D IoU: 0.6703
			
	2D IoU: 0.9441, 3D IoU: 0.9238	2D IoU: 0.5922, 3D IoU: 0.5841	2D IoU: 0.5837, 3D IoU: 0.5826
			
	2D IoU: 0.9261, 3D IoU: 0.9094	2D IoU: 0.8905, 3D IoU: 0.8872	2D IoU: 0.9048, 3D IoU: 0.9012
			
Input	Ours	LED ² -Net	LGT-Net

	2D IoU: 0.9231, 3D IoU: 0.9054		2D IoU: 0.7053, 3D IoU: 0.6987	2D IoU: 0.7303, 3D IoU: 0.7217
				
	2D IoU: 0.9386, 3D IoU: 0.9214		2D IoU: 0.8444, 3D IoU: 0.7476	2D IoU: 0.8401, 3D IoU: 0.6939
				
	2D IoU: 0.9472, 3D IoU: 0.9205		2D IoU: 0.7687, 3D IoU: 0.7551	2D IoU: 0.7732, 3D IoU: 0.7679
				
	2D IoU: 0.9452, 3D IoU: 0.9356		2D IoU: 0.5440, 3D IoU: 0.5404	2D IoU: 0.5468, 3D IoU: 0.5439
				
	2D IoU: 0.9333, 3D IoU: 0.9282		2D IoU: 0.5287, 3D IoU: 0.5281	2D IoU: 0.7675, 3D IoU: 0.7613
				
Input	Ours	LED ² -Net	LGT-Net	

	2D IoU: 0.9284, 3D IoU: 0.9263	2D IoU: 0.5645, 3D IoU: 0.5641	2D IoU: 0.5577, 3D IoU: 0.5541
			
	2D IoU: 0.9232, 3D IoU: 0.9148	2D IoU: 0.7662, 3D IoU: 0.7617	2D IoU: 0.7331, 3D IoU: 0.7216
			
	2D IoU: 0.9222, 3D IoU: 0.9110	2D IoU: 0.6266, 3D IoU: 0.6255	2D IoU: 0.6203, 3D IoU: 0.6130
			
	2D IoU: 0.9395, 3D IoU: 0.9345	2D IoU: 0.8026, 3D IoU: 0.7965	2D IoU: 0.9186, 3D IoU: 0.9017
			
	2D IoU: 0.9341, 3D IoU: 0.9273	2D IoU: 0.5846, 3D IoU: 0.5817	2D IoU: 0.5882, 3D IoU: 0.5845
			
Input	Ours	LED ² -Net	LGT-Net

	2D IoU: 0.9283, 3D IoU: 0.9261	2D IoU: 0.5879, 3D IoU: 0.5790	2D IoU: 0.6221, 3D IoU: 0.6101
			
	2D IoU: 0.9213, 3D IoU: 0.9180	2D IoU: 0.9213, 3D IoU: 0.9209	2D IoU: 0.8807, 3D IoU: 0.8793
			
	2D IoU: 0.9367, 3D IoU: 0.9254	2D IoU: 0.9198, 3D IoU: 0.9191	2D IoU: 0.9468, 3D IoU: 0.9342
			
	2D IoU: 0.9257, 3D IoU: 0.9116	2D IoU: 0.8387, 3D IoU: 0.8335	2D IoU: 0.7741, 3D IoU: 0.7685
			
	2D IoU: 0.9652, 3D IoU: 0.9571	2D IoU: 0.5728, 3D IoU: 0.5678	2D IoU: 0.5794, 3D IoU: 0.5740
			
Input	Ours	LED ² -Net	LGT-Net

	2D IoU: 0.9293, 3D IoU: 0.9154	2D IoU: 0.6545, 3D IoU: 0.6508	2D IoU: 0.6597, 3D IoU: 0.6559
			
	2D IoU: 0.9425, 3D IoU: 0.9278	2D IoU: 0.5432, 3D IoU: 0.5370	2D IoU: 0.5284, 3D IoU: 0.5213
			
	2D IoU: 0.9216, 3D IoU: 0.9156	2D IoU: 0.8048, 3D IoU: 0.7955	2D IoU: 0.8750, 3D IoU: 0.8522
			
	2D IoU: 0.9225, 3D IoU: 0.9145	2D IoU: 0.7528, 3D IoU: 0.7527	2D IoU: 0.8156, 3D IoU: 0.7973
			
	2D IoU: 0.9452, 3D IoU: 0.9337	2D IoU: 0.5502, 3D IoU: 0.5475	2D IoU: 0.3063, 3D IoU: 0.3052
			
			
Input	Ours	LED ² -Net	LGT-Net

	2D IoU: 0.9346, 3D IoU: 0.9173	2D IoU: 0.6681, 3D IoU: 0.6443	2D IoU: 0.6617, 3D IoU: 0.6521
			
	2D IoU: 0.9334, 3D IoU: 0.9107	2D IoU: 0.6169, 3D IoU: 0.5663	2D IoU: 0.6402, 3D IoU: 0.5474
			
	2D IoU: 0.9282, 3D IoU: 0.9271	2D IoU: 0.5939, 3D IoU: 0.5938	2D IoU: 0.5810, 3D IoU: 0.5804
			
	2D IoU: 0.9257, 3D IoU: 0.9142	2D IoU: 0.6425, 3D IoU: 0.6416	2D IoU: 0.6330, 3D IoU: 0.6261
			
	2D IoU: 0.9382, 3D IoU: 0.9312	2D IoU: 0.6926, 3D IoU: 0.6854	2D IoU: 0.6622, 3D IoU: 0.6562
			
Input	Ours	LED ² -Net	LGT-Net

	2D IoU: 0.9271, 3D IoU: 0.9217	2D IoU: 0.5292, 3D IoU: 0.5255	2D IoU: 0.5603, 3D IoU: 0.5391
			
	2D IoU: 0.9223, 3D IoU: 0.9037	2D IoU: 0.6413, 3D IoU: 0.5476	2D IoU: 0.3499, 3D IoU: 0.3135
			
	2D IoU: 0.9426, 3D IoU: 0.9304	2D IoU: 0.6282, 3D IoU: 0.6278	2D IoU: 0.6557, 3D IoU: 0.6442
			
	2D IoU: 0.9404, 3D IoU: 0.9250	2D IoU: 0.7965, 3D IoU: 0.7215	2D IoU: 0.8755, 3D IoU: 0.5584
			
	2D IoU: 0.9606, 3D IoU: 0.9418	2D IoU: 0.6020, 3D IoU: 0.5978	2D IoU: 0.5753, 3D IoU: 0.5744
			
Input	Ours	LED ² -Net	LGT-Net

	2D IoU: 0.9431, 3D IoU: 0.9096	2D IoU: 0.6129, 3D IoU: 0.5920	2D IoU: 0.5999, 3D IoU: 0.5841
			
	2D IoU: 0.9280, 3D IoU: 0.9203	2D IoU: 0.9004, 3D IoU: 0.8975	2D IoU: 0.8837, 3D IoU: 0.8565
			
	2D IoU: 0.9520, 3D IoU: 0.9506	2D IoU: 0.9375, 3D IoU: 0.9339	2D IoU: 0.9303, 3D IoU: 0.9218
			
	2D IoU: 0.9283, 3D IoU: 0.9214	2D IoU: 0.5898, 3D IoU: 0.5687	2D IoU: 0.5924, 3D IoU: 0.5800
			
	2D IoU: 0.9258, 3D IoU: 0.9255	2D IoU: 0.5805, 3D IoU: 0.5730	2D IoU: 0.5815, 3D IoU: 0.5737
			
Input	Ours	LED ² -Net	LGT-Net

	2D IoU: 0.9473, 3D IoU: 0.9357	2D IoU: 0.5609, 3D IoU: 0.5565	2D IoU: 0.5390, 3D IoU: 0.5346
			
	2D IoU: 0.9257, 3D IoU: 0.9126	2D IoU: 0.5125, 3D IoU: 0.5051	2D IoU: 0.5128, 3D IoU: 0.5063
			
	2D IoU: 0.9210, 3D IoU: 0.8987	2D IoU: 0.6941, 3D IoU: 0.6853	2D IoU: 0.9249, 3D IoU: 0.9195
			
	2D IoU: 0.9303, 3D IoU: 0.9273	2D IoU: 0.5697, 3D IoU: 0.5681	2D IoU: 0.5935, 3D IoU: 0.5904
			
	2D IoU: 0.9264, 3D IoU: 0.8998	2D IoU: 0.5760, 3D IoU: 0.5749	2D IoU: 0.5901, 3D IoU: 0.5777
			
Input	Ours	LED ² -Net	LGT-Net

	2D IoU: 0.9214, 3D IoU: 0.9129	2D IoU: 0.6037, 3D IoU: 0.6034	2D IoU: 0.5863, 3D IoU: 0.5814
			
	2D IoU: 0.9527, 3D IoU: 0.9411	2D IoU: 0.7239, 3D IoU: 0.7188	2D IoU: 0.7560, 3D IoU: 0.7506
			
	2D IoU: 0.9370, 3D IoU: 0.9217	2D IoU: 0.7986, 3D IoU: 0.7900	2D IoU: 0.2035, 3D IoU: 0.2035
			
	2D IoU: 0.9627, 3D IoU: 0.9566	2D IoU: 0.6185, 3D IoU: 0.6151	2D IoU: 0.6638, 3D IoU: 0.6567
			
	2D IoU: 0.9419, 3D IoU: 0.9313	2D IoU: 0.5779, 3D IoU: 0.5748	2D IoU: 0.5634, 3D IoU: 0.5579
			
Input	Ours	LED ² -Net	LGT-Net

	2D IoU: 0.9405, 3D IoU: 0.9273	2D IoU: 0.6718, 3D IoU: 0.6688	2D IoU: 0.7019, 3D IoU: 0.6946
			
	2D IoU: 0.9292, 3D IoU: 0.9056	2D IoU: 0.8583, 3D IoU: 0.7641	2D IoU: 0.8840, 3D IoU: 0.7208
			
	2D IoU: 0.9657, 3D IoU: 0.9654	2D IoU: 0.8181, 3D IoU: 0.8103	2D IoU: 0.5148, 3D IoU: 0.5133
			
	2D IoU: 0.9463, 3D IoU: 0.9245	2D IoU: 0.9246, 3D IoU: 0.8983	2D IoU: 0.9208, 3D IoU: 0.9158
			
	2D IoU: 0.9275, 3D IoU: 0.9183	2D IoU: 0.5813, 3D IoU: 0.5725	2D IoU: 0.5758, 3D IoU: 0.5674
			
Input	Ours	LED ² -Net	LGT-Net

	2D IoU: 0.9257, 3D IoU: 0.9139	2D IoU: 0.6252, 3D IoU: 0.6203	2D IoU: 0.6350, 3D IoU: 0.6263
			
	2D IoU: 0.9502, 3D IoU: 0.9391	2D IoU: 0.6511, 3D IoU: 0.6449	2D IoU: 0.6484, 3D IoU: 0.6449
			
	2D IoU: 0.9304, 3D IoU: 0.9060	2D IoU: 0.5788, 3D IoU: 0.5652	2D IoU: 0.5843, 3D IoU: 0.5820
			
	2D IoU: 0.9355, 3D IoU: 0.9338	2D IoU: 0.4737, 3D IoU: 0.4710	2D IoU: 0.4292, 3D IoU: 0.4287
			
	2D IoU: 0.9320, 3D IoU: 0.9166	2D IoU: 0.8202, 3D IoU: 0.8145	2D IoU: 0.6085, 3D IoU: 0.6065
			
Input	Ours	LED ² -Net	LGT-Net

	2D IoU: 0.9310, 3D IoU: 0.9280		2D IoU: 0.7250, 3D IoU: 0.7181	2D IoU: 0.7636, 3D IoU: 0.7407		
						
	2D IoU: 0.9331, 3D IoU: 0.9255		2D IoU: 0.6023, 3D IoU: 0.6009	2D IoU: 0.5934, 3D IoU: 0.5786		
						
	2D IoU: 0.9252, 3D IoU: 0.9249		2D IoU: 0.6525, 3D IoU: 0.6524	2D IoU: 0.6790, 3D IoU: 0.6780		
						
	2D IoU: 0.9349, 3D IoU: 0.9082		2D IoU: 0.5993, 3D IoU: 0.5866	2D IoU: 0.5831, 3D IoU: 0.5625		
						
	2D IoU: 0.9329, 3D IoU: 0.9148		2D IoU: 0.6509, 3D IoU: 0.6424	2D IoU: 0.7417, 3D IoU: 0.7239		
						
						
						
						
						
						
Input	Ours	LED ² -Net	LGT-Net			

	2D IoU: 0.9232, 3D IoU: 0.9153	2D IoU: 0.8357, 3D IoU: 0.8294	2D IoU: 0.8536, 3D IoU: 0.8435
			
	2D IoU: 0.9496, 3D IoU: 0.9462	2D IoU: 0.5835, 3D IoU: 0.5835	2D IoU: 0.5825, 3D IoU: 0.5809
			
	2D IoU: 0.9303, 3D IoU: 0.9230	2D IoU: 0.7153, 3D IoU: 0.7115	2D IoU: 0.3555, 3D IoU: 0.3539
			
	2D IoU: 0.9334, 3D IoU: 0.9290	2D IoU: 0.9071, 3D IoU: 0.8923	2D IoU: 0.8017, 3D IoU: 0.7807
			
	2D IoU: 0.9251, 3D IoU: 0.9108	2D IoU: 0.5732, 3D IoU: 0.5717	2D IoU: 0.2499, 3D IoU: 0.2475
			
			
Input	Ours	LED ² -Net	LGT-Net