

Simulation metrics

		CONCRETE	GRASS	ROCK	WOOD	RUBBER	PLASTIC	SNOW	ICE
Acc (↑)	Vision	0.70	0.74	0.70	0.76	0.81	0.82	0.92	0.82
	Proposed	0.83	0.77	0.79	0.82	0.83	0.85	0.99	0.84
PSNR (↑)	Vision	8.48	11.91	11.90	8.97	12.01	11.26	16.66	11.12
	Proposed	11.59	12.07	13.43	10.44	12.07	12.07	21.76	11.44
SSIM (↑)	Vision	0.70	0.73	0.69	0.74	0.79	0.80	0.92	0.81
	Proposed	0.80	0.75	0.77	0.79	0.79	0.82	0.98	0.82
BCE (↓)	Vision	2.72	2.67	2.73	2.58	2.86	2.53	1.60	2.69
	Proposed	2.29	2.61	2.45	2.40	2.83	2.46	1.39	2.63

The vision-only baseline uses the SegFormer+FastSAM network. The proposed approach uses the same network for visual classification and uses simulated property measurements to update semantic predictions.

Demo

