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GEM

Glare or Gloom, I Can Still See You - End-to-End Multi-Modal Object Detection

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Comments and Corrections

Correction to “GEM: Glare or Gloom, I Can Still See You – End-to-End Multi-Modal Object Detection”

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The numbering of Tables I and II in [1] was inconsistent with the text and their captions referred to the wrong datasets. The correct tables are shown in Tables I and II. Reference [19] in Table II refers to the reference list in [1].

REFERENCES

- [1] O. Mazhar, R. Babuška, and J. Kober, “GEM: Glare or gloom, I can still see you—end-to-end multi-modal object detection,” *IEEE Robot. Automat. Lett.*, vol. 6, no. 4, pp. 6321–6328, Oct. 2021.

TABLE I
PERFORMANCE EVALUATION ON SUNRGB-D DATASET

Models	Tested without Random Shadows and Highlights (RSH)										w/ RSH	
	AP@IoU=0.5										mAP@	mAP@
	bathub	bed	bookshelf	box	chair	...	door	dresser	lamp	night stand	IoU=0.5	IoU=0.5
RGB-only	0.116	0.461	0.038	0.084	0.457	...	0.370	0.085	0.185	0.095	0.224	0.169
HHA-only	0.355	0.409	0.002	0.020	0.413	...	0.113	0.024	0.199	0.057	0.165	0.093
conc-baseline	0.333	0.440	0.002	0.068	0.456	...	0.367	0.056	0.195	0.041	0.211	0.155
avg-baseline	0.174	0.461	0.032	0.062	0.470	...	0.339	0.030	0.220	0.049	0.207	0.166
g_{sc} (raw-depth)	0.404	0.411	0.008	0.073	0.487	...	0.360	0.051	0.225	0.044	0.226	0.209
g_{sc} (r-blended)	0.350	0.457	0.040	0.085	0.490	...	0.381	0.107	0.226	0.108	0.242	0.230
g_{sa} (raw-depth)	0.204	0.399	0.033	0.087	0.478	...	0.344	0.102	0.220	0.025	0.221	0.214
g_{sa} (r-blended)	0.253	0.423	0.106	0.080	0.474	...	0.379	0.035	0.219	0.079	0.239	0.236

TABLE II
PERFORMANCE EVALUATION ON FLIR-THERMAL DATASET

Model w/ RSH	w/o Random Shadows and Highlights			w/ RSH	
	AP@IoU=0.5			mAP@	
	Person	Bicycle	Car	IoU=0.5	
FLIR Baseline	0.794	0.580	0.856	0.743	-
rgb-only	0.383	0.168	0.638	0.395	0.376
thermal-only	0.683	0.499	0.783	0.655	0.316
MM-UNIT [19]	0.644	0.494	0.707	0.615	-
MM-CG [19]	0.633	0.502	0.706	0.614	-
SSD-BL	0.450	0.341	0.719	0.503	0.478
SSD-WA	0.526	0.314	0.718	0.519	0.516
avg-baseline	0.801	0.562	0.879	0.747	0.731
conc-baseline	0.533	0.417	0.675	0.541	0.492
g_{sa}	0.828	0.593	0.891	0.770	0.769
g_{sc}	0.809	0.637	0.862	0.769	0.764
g_{ma}	0.803	0.575	0.862	0.746	0.744
g_{mc}	0.800	0.611	0.857	0.755	0.755
g_{sf}	0.790	0.584	0.874	0.749	0.756
g_{sc} m-net	0.696	0.472	0.823	0.663	0.664

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