

Distance Histograms and Statistics from Annotated Positions to the Ground Truth

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Abstract. This document presents histograms and statistics on the distances from the Ground Truth (GT) to the annotated positions.

Dataset	Detector	GTM Descr.	\tilde{d}_a^{GT}	Q_1^{GT}	Q_3^{GT}	min.	max.	Occ./%	p	n_s
KITTI 2015 Flow	FAST	FREAK	0.475	0.197	0.998	0.003	15.409	0.84	0.022	2373
KITTI 2015 Flow	SIFT	FREAK	0.613	0.289	1.067	0	33.711	2.61	0.011	2678
KITTI 2015 Flow	SIFT	SIFT	0.663	0.277	1.111	0.001	23.569	7.60	0.044	2763
HCI	FAST	FREAK	0.248	0.139	0.455	0.002	21.637	0.41	0.006	17150
KITTI 2015 Disp.	FAST	FREAK	0.700	0.444	1.093	0	18.561	6.26	0.029	2556
KITTI 2015 Disp.	SIFT	FREAK	0.859	0.541	1.307	0.035	67.795	2.55	0.024	2354
KITTI 2012 Disp.	FAST	FREAK	0.485	0.273	0.809	0.008	63.249	5.08	0.022	2361
Oxford wall	FAST	FREAK	0.966	0.563	1.499	0.041	27.939	1.69	0.044	1779
Oxford wall	SIFT	FREAK	1.103	0.683	1.670	0.028	33.310	1.23	0.014	2434
Oxford wall	SIFT	SIFT	1.234	0.759	1.945	0.030	57.187	7.27	0.106	3025
Oxford graffiti	FAST	FREAK	0.597	0.310	1.223	0.004	10.662	5.65	0.048	2300
Oxford bark	FAST	FREAK	1.576	0.873	2.890	0.008	24.779	0.47	0.171	4251

Table 1. Accuracy of the GT for various datasets. For statistics, the median \tilde{d}_a^{GT} , lower quartile Q_1^{GT} , upper quartile Q_3^{GT} , minimum, and maximum distances from the annotated positions to the GT were calculated. Occ. specifies the fraction of correspondences that could not be annotated as they were occluded. p specifies the error ratio described in Section 3.2 of the paper and n_s the number of randomly selected samples. The GTM used for annotation was generated using the descriptors stated in the table.

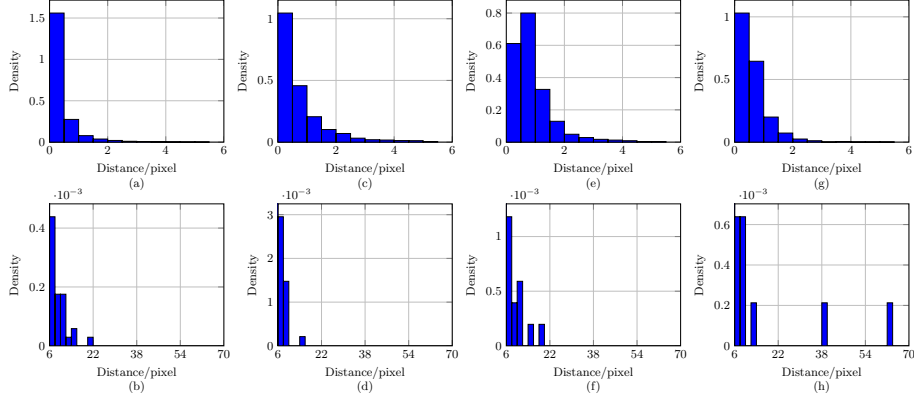


Fig. 1. Density over the pixel distances from annotated positions to the GT for (a)-(b) HCI flow, (c)-(d) KITTI 2015 flow, (e)-(f) KITTI 2015 disparity, and (g)-(h) KITTI 2012 disparity. The annotated positions are based on randomly selected matches of the GTM using FAST keypoints.

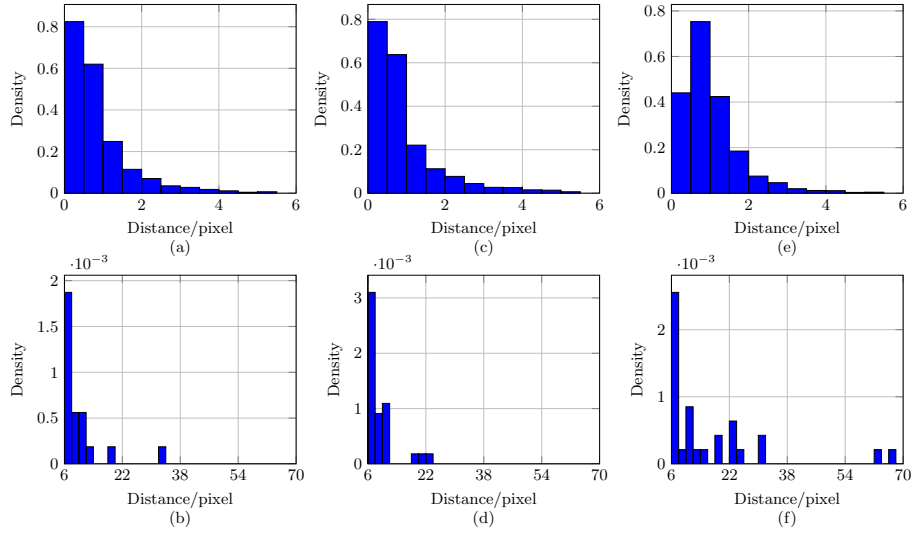


Fig. 2. Density over the pixel distances from annotated positions to the GT for (a)-(b) KITTI 2015 flow (GTM generated with SIFT keypoints and FREAK descriptors), (c)-(d) KITTI 2015 flow (GTM generated with SIFT features), and (e)-(f) KITTI 2015 disparity (GTM generated with SIFT keypoints and FREAK descriptors). The annotated positions are based on randomly selected matches of the GTM using SIFT keypoints.

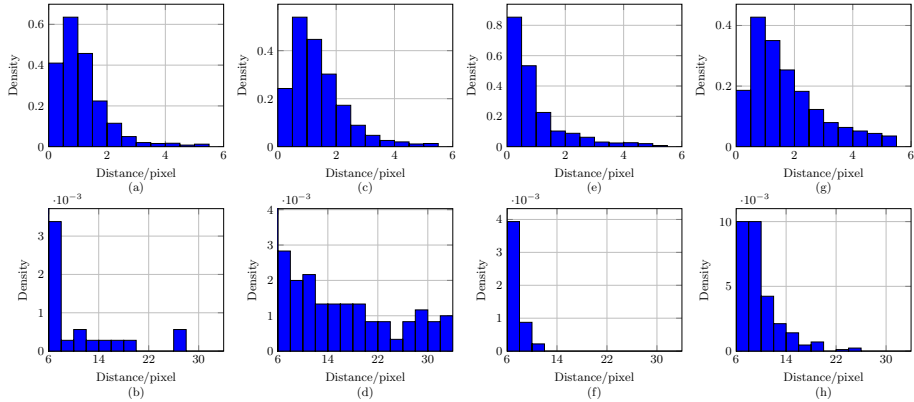


Fig. 3. Density over the pixel distances from annotated positions to the GT for (a)-(b) Oxford wall (GTM generated with FAST keypoints and FREAK descriptors), (c)-(d) Oxford wall (GTM generated with SIFT features), (e)-(f) Oxford graffiti (GTM generated with FAST keypoints and FREAK descriptors), and (g)-(h) Oxford bark (GTM generated with FAST keypoints and FREAK descriptors). The annotated positions are based on randomly selected matches of the GTM.