

Learned Shape-Tailored Descriptors for Segmentation

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1. Additional Results

In Table 1 we provided the results of non shape-tailored descriptors obtained from pre-trained VGG network. Descriptors from VGG (CNNs) are not shape-tailored and hence suffer from the same problems as "non-STLD" descriptors, i.e., they do not aggregate data within objects of interest, thus blurring the boundaries between objects, resulting in erroneous segmentation.

	Contour		Region metrics					
	F-meas.		GT-cov.		Rand. Index		Var. Info.	
	ODS	OIS	ODS	OIS	ODS	OIS	ODS	OIS
Learned (ours)	0.65	0.65	0.92	0.92	0.92	0.92	0.43	0.43
Learned(non-STLD)	0.53	0.53	0.89	0.89	0.89	0.89	0.47	0.47
VGG conv1 (64 dim)	0.31	0.31	0.76	0.76	0.78	0.78	0.91	0.91
VGG conv2 (128 dim)	0.44	0.44	0.86	0.86	0.86	0.86	0.63	0.63
VGG conv3 (256 dim)	0.49	0.49	0.84	0.84	0.84	0.84	0.67	0.67
VGG conv4 (512 dim)	0.44	0.44	0.79	0.79	0.80	0.80	0.77	0.77
VGG conv5 (512 dim)	0.14	0.14	0.53	0.53	0.55	0.55	1.25	1.25
VGG conv2 & 3 (384 dim)	0.47	0.47	0.86	0.86	0.87	0.87	0.63	0.63
VGG conv2 & 4 (640 dim)	0.44	0.44	0.86	0.86	0.86	0.86	0.64	0.64

Table 1. Results on Texture Segmentation Dataset

2. Qualitative Results

Figure 1 and Figure 2 shows some sample results for BSDS500 and Real-World texture dataset.

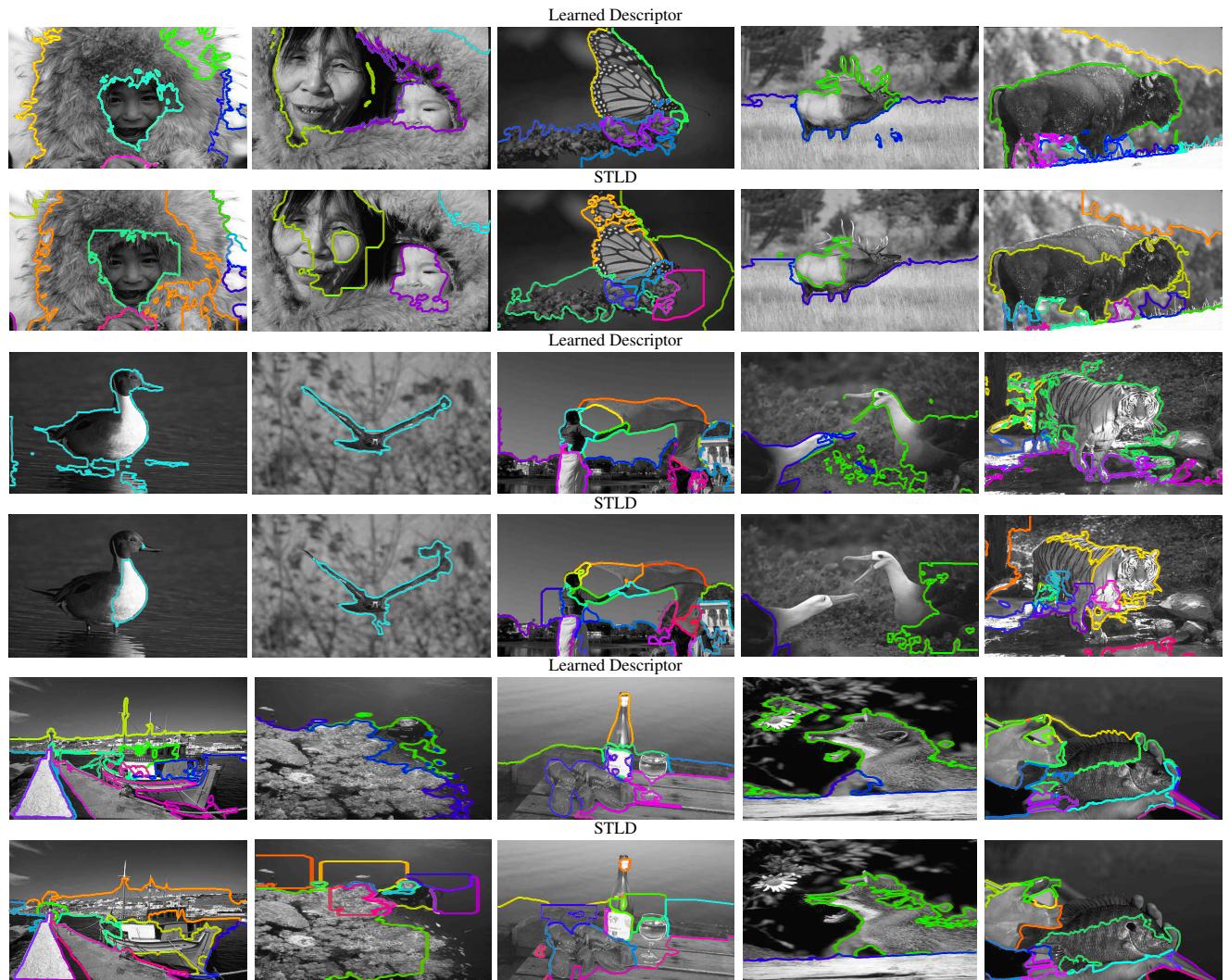


Figure 1. Sample representative results on BSDS500. We compare our Learned descriptor with STLD.



Figure 2. Sample representative results on Real-World Texture Dataset. We compare the Learned Descriptors (ours) and STLD (using discrete scale spaces).