

Results on Clipart

G: Global Alignment, I: Instance, CTX: Context Vector, L: Local, P: Pixel

Method	G	I	CTX	L	P	aero	bcycle	bird	boat	bottle	bus	car	cat	chair	cow	table	dog	hrs	bike	prsn	plnt	sheep	sofa	train	tv	MAP
Faster RCNN						35.6	52.5	24.3	23.0	20.0	43.9	32.8	10.7	30.6	11.7	13.8	6.0	36.8	45.9	48.7	41.9	16.5	7.3	22.9	32.0	27.8
BDC-Faster	✓					20.2	46.4	20.4	19.3	18.7	41.3	26.5	6.4	33.2	11.7	26.0	1.7	36.6	41.5	37.7	44.5	10.6	20.4	33.3	15.5	<u>25.6</u>
DA-Faster	✓	✓				15.0	34.6	12.4	11.9	19.8	21.1	23.2	3.1	22.1	26.3	10.6	10.0	19.6	39.4	34.6	29.3	1.0	17.1	19.7	24.8	19.8
Proposed	✓					30.5	48.5	33.6	24.8	41.2	48.9	32.4	17.2	34.5	55.0	19.0	13.6	35.1	66.2	63.0	45.3	12.5	22.6	45.0	38.9	<u>36.4</u>
				✓		19.8	50.7	25.4	21.7	30.2	47.2	27.1	8.5	33.5	26.8	14.0	11.7	31.5	62.0	49.9	39.6	9.1	23.8	39.5	38.4	30.5
	✓		✓			31.7	55.2	30.9	26.8	43.4	47.5	40.0	7.9	36.7	50.0	14.3	18.0	29.2	68.1	62.3	50.4	13.4	24.5	54.2	45.8	37.5
	✓		✓	✓		26.2	48.5	32.6	33.7	38.5	54.3	37.1	18.6	34.8	58.3	17.0	12.5	33.8	65.5	61.6	52.0	9.3	24.9	54.1	49.1	38.1
	✓		✓	✓	✓	31.1	53.7	28.9	24.9	40.3	49.0	38.1	14.6	41.9	43.8	15.3	7.2	27.9	75.5	57.3	41.8	6.7	23.3	48.5	44.1	35.7

9.8%

- Strong alignment methods (BDC-Faster, DA-Faster) degrade performance.
- 9.8% improvement by just replacing the global domain classifier's



Results on Watercolor

Method	G	I	CTX	L	P	AP on a target domain						
						bike	bird	car	cat	dog	prsn	MAP
Faster RCNN						68.8	46.8	37.2	32.7	21.3	60.7	44.6
BDC-Faster	✓					68.6	48.3	47.2	26.5	21.7	60.5	45.5
DA-Faster	✓	✓				75.2	40.6	48.0	31.5	20.6	60.0	46.0
Proposed	✓					66.4	53.7	43.8	37.9	31.9	65.3	49.8
				✓		79.4	54.8	47.2	37.1	31.5	62.4	52.1
	✓		✓			71.3	52.0	46.6	36.2	29.2	67.3	50.4
	✓		✓	✓		82.3	55.9	46.5	32.7	35.5	66.7	53.3
	✓		✓	✓	✓	90.5	54.8	49.4	38.6	38.8	67.9	56.7
Oracle						83.6	59.4	50.7	43.7	39.5	74.5	58.6



Local-level was effective

Oracle-level performance