

Accuracy-Robustness

Experiment baseline

Table: Accuracy

	tag_camera_motion	tag_empty	tag_illum_change	tag_motion_change	tag_occlusion	tag_size_change	Mean	Weighted mean	Pooled
DeepSRDCF	0.4965	0.5024	0.4996	0.4885	0.4080	0.4567	0.4753	0.4845	0.4922
CCOT	0.5158	0.4994	0.4460	0.4835	0.3917	0.4499	0.4644	0.4851	0.4949
UCT	0.5026	0.4969	0.4726	0.4800	0.4312	0.4257	0.4681	0.4807	0.4887
DSiam	0.5301	0.5047	0.5514	0.5323	0.4413	0.4627	0.5037	0.5061	0.5095
CFNet	0.5118	0.5107	0.5477	0.5108	0.4151	0.4700	0.4943	0.4982	0.5010
ECO	0.5131	0.4846	0.5026	0.4810	0.3520	0.4451	0.4631	0.4762	0.4848
DeepCSRDCF	0.5130	0.4956	0.4659	0.4867	0.3836	0.4490	0.4656	0.4831	0.4892
MCPF	0.5350	0.5099	0.4954	0.5044	0.4104	0.4840	0.4898	0.5042	0.5105
DCFNet	0.4866	0.4699	0.5300	0.4653	0.3794	0.4480	0.4632	0.4646	0.4700
UPDT	0.5598	0.5310	0.5574	0.5321	0.4788	0.4893	0.5247	0.5302	0.5362
DaSiamRPN	0.5785	0.5802	0.5566	0.5827	0.4639	0.5635	0.5542	0.5673	0.5732
TRACA	0.4414	0.4188	0.5027	0.4315	0.4236	0.4282	0.4410	0.4306	0.4306
DeepSTRCF	0.5546	0.5127	0.5126	0.5338	0.4420	0.4707	0.5044	0.5165	0.5234
SiamRPN	0.5181	0.4825	0.4895	0.5053	0.4141	0.4871	0.4827	0.4910	0.4926
SA-Siam	0.5180	0.5077	0.4761	0.5113	0.4583	0.4584	0.4883	0.4999	0.5085
LSART	0.5153	0.4961	0.4836	0.4984	0.4402	0.4565	0.4817	0.4919	0.4975
DRT	0.5344	0.5126	0.5000	0.5046	0.4662	0.4667	0.4974	0.5076	0.5179
DAT	0.4568	0.4440	0.3456	0.4243	0.3097	0.4421	0.4037	0.4310	0.4352
CFCF	0.5337	0.5020	0.4321	0.5029	0.4355	0.4822	0.4814	0.5017	0.5077
CRPN	0.5700	0.5543	0.5373	0.5678	0.4730	0.5632	0.5443	0.5546	0.5594
GCT	0.5283	0.4929	0.4987	0.4930	0.4216	0.3982	0.4721	0.4850	0.4920
SiamMask	0.6205	0.6082	0.6160	0.6202	0.4678	0.6281	0.5935	0.6040	0.6095
SiamRPNpp	0.6202	0.6037	0.6044	0.6028	0.5075	0.5758	0.5857	0.5964	0.6036
SiamDW-SiamRPN	0.5760	0.5676	0.5508	0.5641	0.4933	0.4930	0.5408	0.5531	0.5598
SiamDW-SiamFC	0.5258	0.5048	0.5120	0.4927	0.3722	0.4479	0.4759	0.4905	0.4952

Table: Robustness

	tag_camera_motion	tag_empty	tag_illum_change	tag_motion_change	tag_occlusion	tag_size_change	Mean	Weighted mean	Pooled
DeepSRDCF	54.0000	62.0000	5.0000	31.0000	32.0000	20.0000	34.0000	45.9956	151.0000
CCOT	26.0000	19.0000	6.0000	19.0000	22.0000	14.0000	17.6667	20.4138	68.0000
UCT	44.0000	29.0000	3.0000	24.0000	27.0000	12.0000	23.1667	29.7991	103.0000
DSiam	61.0000	35.0000	7.0000	34.0000	33.0000	22.0000	32.0000	40.0874	138.0000
CFNet	40.0000	31.0000	5.0000	42.0000	32.0000	25.0000	29.1667	34.0259	125.0000
ECO	25.0000	14.0000	4.0000	18.0000	22.0000	9.0000	15.3333	17.6628	59.0000
DeepCSRDCF	28.0000	19.0000	3.0000	14.0000	14.0000	10.0000	14.6667	19.0067	59.0000
MCPPF	42.3333	18.6000	5.1333	23.9333	23.0667	14.6667	21.2889	25.9600	91.2667
DCFNet	50.0000	34.0000	8.0000	31.0000	24.0000	21.0000	28.0000	35.2015	116.0000
UPDT	13.8000	7.8667	1.0000	8.5333	18.7333	7.6000	9.5889	10.4823	39.2000
DaSiamRPN	37.0000	18.0000	1.0000	14.0000	17.0000	9.0000	16.0000	21.4199	72.0000
TRACA	75.0000	56.0000	5.0000	46.0000	35.0000	28.0000	40.8333	53.6777	183.0000
DeepSTRCF	13.0000	16.0000	2.0000	13.0000	13.0000	8.0000	10.8333	13.1103	46.0000
SiamRPN	42.0000	27.0000	4.0000	27.0000	23.0000	12.0000	22.5000	28.6648	99.0000
SA-Siam	45.0000	20.0000	3.0000	25.0000	24.0000	18.0000	22.5000	27.8227	98.0000
LSART	19.7333	8.4667	0.5333	8.6667	20.8000	9.0000	11.2000	12.7929	46.5333
DRT	18.0000	12.0000	3.0000	11.0000	12.0000	7.0000	10.5000	12.7941	43.0000
DAT	54.0000	46.0000	6.0000	27.0000	43.0000	27.0000	33.8333	42.0946	154.0000
CFCF	30.0000	19.0000	0.0000	15.0000	20.0000	8.0000	15.3333	19.9435	61.0000
CRPN	42.0000	18.0000	3.0000	21.0000	18.0000	12.0000	19.0000	24.4150	82.0000
GCT	36.4000	13.0000	1.0000	24.0000	15.2000	13.0000	17.1000	21.4197	76.4000
SiamMask	29.0000	9.0000	0.0000	17.0000	18.0000	6.0000	13.1667	16.2519	60.0000
SiamRPNpp	24.0000	10.0000	1.0000	14.0000	17.0000	8.0000	12.3333	14.8653	50.0000
SiamDW-SiamRPN	29.0000	22.0000	2.0000	23.0000	28.0000	15.0000	19.8333	23.4210	85.0000
SiamDW-SiamFC	45.0000	25.0000	5.0000	29.0000	20.0000	21.0000	24.1667	30.1058	100.0000

Expected overlap analysis

Experiment baseline

Overview

Scores calculated as an average over interval 100 to 356

	all
SiamRPNpp	0.4169
SiamMask	0.3839
UPDT	0.3785
DRT	0.3550
DeepSTRCF	0.3451
DaSiamRPN	0.3274
LSART	0.3247
SiamDW-SiamRPN	0.2958
DeepCSRDCF	0.2929
CRPN	0.2919
ECO	0.2809
CFCF	0.2806
GCT	0.2748
CCOT	0.2674
MCPF	0.2477
SiamRPN	0.2453
SA-Siam	0.2374
SiamDW-SiamFC	0.2329
UCT	0.2042
DSiam	0.1952
CFNet	0.1875
DCFNet	0.1827
DeepSRDCF	0.1544
DAT	0.1443
TRACA	0.1385

Report overview

	baseline			unsupervised				
	EAO	A-R rank	Speed			Overlap	Speed	
	EAO	Overlap	Failures	Normalized	FPS	AUC	Normalized	FPS
DeepSRDCF	0.1544	0.4845	45.9956	0.1060	0.7831	0.3211	0.1359	0.9707
CCOT	0.2674	0.4851	20.4138	0.0291	0.1463	0.3909	0.0549	0.2723
UCT	0.2042	0.4807	29.7991	2.5122	12.1953	0.3736	3.0896	14.7347
DSiam	0.1952	0.5061	40.0874	2.0635	9.6414	0.3511	2.6562	12.0447
CFNet	0.1875	0.4982	34.0259	4.6814	31.8890	0.3428	5.3259	35.2402
ECO	0.2809	0.4762	17.6628	0.8031	3.7056	0.4025	0.9916	4.5321
DeepCSRDCF	0.2929	0.4831	19.0067	0.8934	3.1894	0.3934	0.7161	2.5216
MCPF	0.2477	0.5042	25.9600	0.0779	0.4195	0.4440	0.0821	0.4273
DCFNet	0.1827	0.4646	35.2015	5.8744	27.2624	0.3269	7.3045	33.2206
UPDT	0.3785	0.5302	10.4823	0.0810	0.4346	0.4546	0.0884	0.4697
DaSiamRPN	0.3274	0.5673	21.4199	NaN	NaN	0.0000	NaN	NaN
TRACA	0.1385	0.4306	53.6777	1.8143	10.0635	0.2587	3.4281	18.6393
DeepSTRCF	0.3451	0.5165	13.1103	0.5193	2.9157	0.4365	0.5605	3.1144
SiamRPN	0.2453	0.4910	28.6648	19.2695	104.4643	0.3586	19.5166	103.0445
SA-Siam	0.2374	0.4999	27.8227	NaN	22.6941	0.4071	NaN	36.1594
LSART	0.3247	0.4919	12.7929	0.2967	1.7182	0.4389	0.2306	1.3242
DRT	0.3550	0.5076	12.7941	0.1175	0.4378	0.4240	0.1237	0.4568
DAT	0.1443	0.4310	42.0946	6.4338	28.6446	0.2871	8.5054	36.8791
CFCF	0.2806	0.5017	19.9435	0.1013	0.3889	0.3773	0.1268	0.4831
CRPN	0.2919	0.5546	24.4150	NaN	13.2352	0.4036	NaN	19.4210
GCT	0.2748	0.4850	21.4197	NaN	22.9157	0.0000	NaN	NaN
SiamMask	0.3839	0.6040	16.2519	NaN	NaN	0.0000	NaN	NaN
SiamRPNpp	0.4169	0.5964	14.8653	NaN	34.3602	0.5015	NaN	37.0633
SiamDW-SiamRPN	0.2958	0.5531	23.4210	NaN	NaN	0.0000	NaN	NaN
SiamDW-SiamFC	0.2329	0.4905	30.1058	NaN	NaN	0.0000	NaN	NaN

