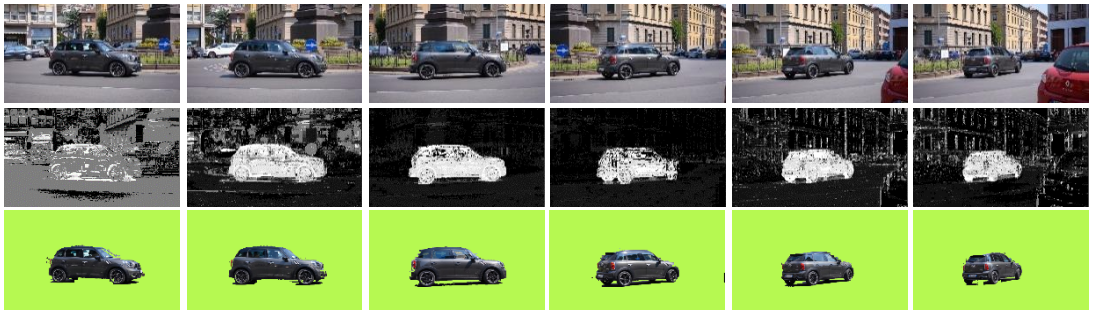
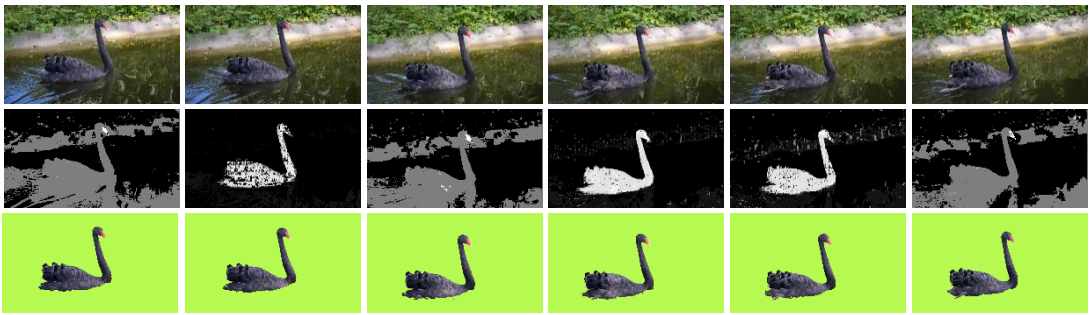
1. Segmentation results of video sequences with **the change of lighting conditions**:



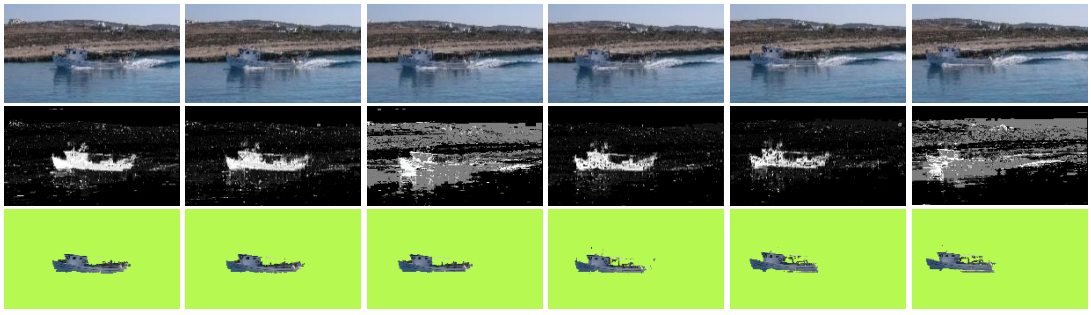
(a) Car-roundabout, DAVIS 2016

(b) Car-Shadow, DAVIS 2016

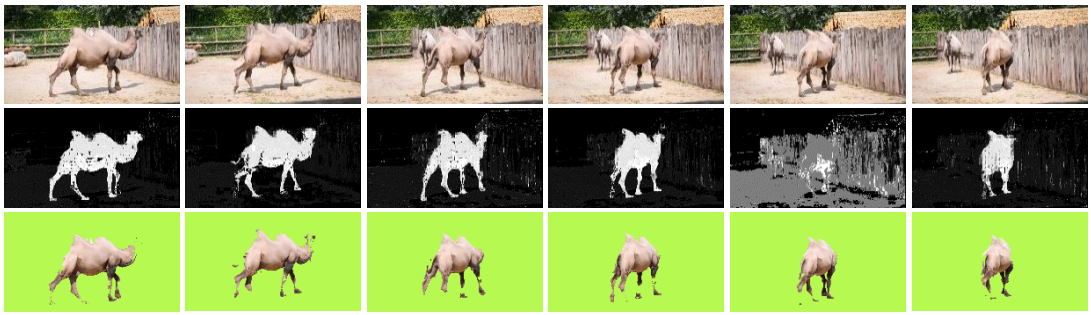
2. Segmentation results of video sequences with **serious shadowing**:



(a) Blackswan, DAVIS 2016

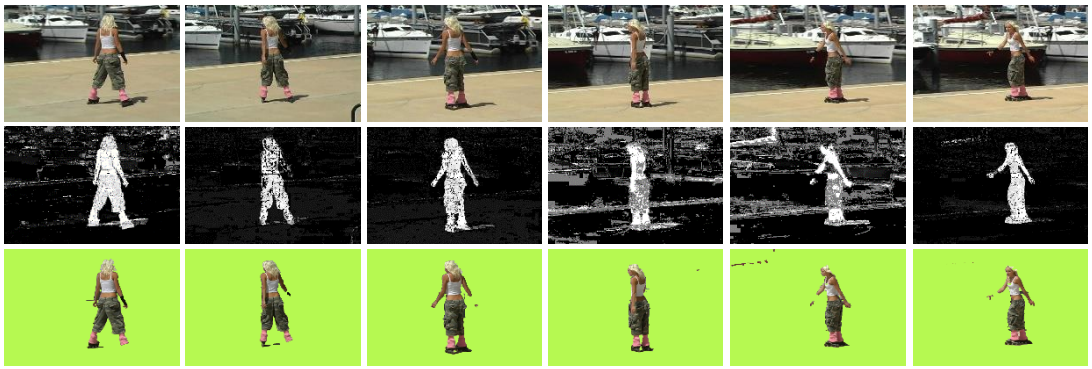


(b) Boat, DAVIS 2016



(c) Camel, DAVIS 2016

3. Video Segmentation results of video sequences with **camera motion**:



(a) Skater, JumpCut [2]

(b) Dance, JumpCut [2]

4. We also show quantitative results in table 1, and compare our method with other 8 methods, including OFL [1], BVS [2], JMP [3], HVS [4], SEA [5], SiamMask [6], SegFlow [7] and MaskTrack [8], in order to demonstrate the effectiveness of our method for fairly challenging videos. We run these on 7 representative video sequences in DAVIS 2016 dataset and evaluate them by region similarity measurement (J), i.e., intersection-over-union (IoU), averaged over all frames in each sequence. As can be seen, our method performs favorably against the other state-of-the-art methods.

Table 1 Statistics of eight methods on 7 video sequences and mean J .

Cases	Videos	OFL [1]	BVS [2]	JMP [3]	HVS [4]	SEA [5]	SiamMask [6]	SegFlow [7]	MaskTrack [8]	Our
lighting condition	car-roundabout	0.903	0.850	0.727	0.777	0.708	0.919	0.851	**0.958**	0.877
	car-shadow	0.841	0.580	0.640	0.694	0.771	0.928	**0.943**	0.932	0.786
	rhino	0.894	0.782	0.717	0.811	0.736	0.828	0.891	**0.911**	0.872
shadowing	blackswan	**0.948**	0.943	0.930	0.916	0.934	0.801	0.920	0.902	0.939
	boat	**0.810**	0.646	0.707	0.782	0.794	0.581	0.560	0.551	0.620
	camel	0.866	0.669	0.640	**0.875**	0.650	0.784	0.791	0.801	0.825
	flamingo	**0.886**	0.881	0.535	0.811	0.586	0.599	0.772	0.789	0.847

Note that we did not provide the quantitative results for the case of camera motion in Table 1, due to lack of the evaluation on the dataset [2] by most abovementioned methods.

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[4] M. Grundmann, V. Kwatra, M. Han, and I. Essa. Efficient hierarchical graph-based video segmentation. In CVPR), Jun. 2010.
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