



When visiting a webpage, people look at different places under different tasks.

Contributions

- •We address webpage saliency prediction under *multi-task* condition.
- •We propose a disentangled framework which can be efficiently trained from a small-scale taskdriven saliency dataset with sparse annotations.
- •A new benchmark dataset for the evaluation of webpage saliency prediction under multi-task condition.

Data analysis

Task	Input field	Text	Button	Image
Signing-up	0.953	0.971	1.040	1.124
Form filling	1.681	0.979	1.254	0.572
Information browsing	1.725	0.946	0.804	1.033
Shopping	1.444	1.022	0.816	0.770
Community joining	0.895	0.898	1.156	1.186
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Component saliency ratio for each semantic component (column) under each task (row). This table shows that human attention on webpages under the task-driven condition is related to the semantic components of webpages.

Task-driven Webpage Saliency Quanlong Zheng¹ Jianbo Jiao^{1, 2} Ying Cao¹ Rynson W.H. Lau¹ ¹City University of Hong Kong ²University of Illinois at Urbana-Champaign

Architecture



We propose to disentangle task-driven saliency prediction into two sub-tasks: task-specific attention shift prediction and task-free saliency prediction.

Results

Benchmark Dataset: 200 webpages of four categories (shopping, traveling, games and email), each of which has eye gaze data under a single or multiple tasks.

$\mathrm{KL}\downarrow$							$sAUC \uparrow$							$NSS\uparrow$							
Method	Sign-	Form	Info.	Shopp-	· Comm.	Average	Method	Sign-	Form	Info.	Shopp-	Comm.	Average	Mothod	Sign-	Form	Info.	Shopp-	Comm.	Avoraço	
	up	fill	brows.	ing	joining	S	Method	up	fill	brows.	ing	joining	nverage	Method	up	fill	brows.	ing	joining	S	
Human	0	0	0	0	0	0	Human	0.750	0.734	0.727	0.745	0.736	0.738	Human	0.804	0.823	0.699	0.739	0.773	0.768	
Grad-CAM [25]	5.527	5.253	4.126	4.094	5.843	4.973	Grad-CAM [25]	0.519	0.533	0.503	0.507	0.512	0.515	Grad-CAM [25]	0.144	0.214	0.008	0.085	0.112	0.126	
VIMGD [4]	2.513	2.726	2.987	5.462	3.127	3.363	VIMGD [4]	0.596	0.576	0.577	0.540	0.583	0.576	VIMGD [4]	0.534	0.449	0.465	0.293	0.488	0.447	
SALICON [10]	0.651	1.116	0.569	0.771	0.595	0.739	SALICON [10]	0.612	0.598	0.604	0.601	0.607	0.605	SALICON [10]	0.605	0.526	0.550	0.497	0.573	0.550	
SalNet [23]	1.129	1.893	1.041	0.941	1.028	1.207	SalNet [23]	0.638	0.603	0.629	0.631	0.636	0.627	SalNet [23]	0.609	0.480	0.550	0.585	0.604	0.5652	
Ours	0.867	1.152	0.731	0.861	0.812	0.883	Ours	0.654	0.633	0.644	0.642	0.652	0.645	Ours	0.646	0.594	0.624	0.607	0.638	0.622	



