

Supplementary material for Centerline-Diameters Data Structure for Interactive Segmentation

Table 1. Hyperparameters used to train our model and the competitors’ baselines.

	RITM	FocalClick	SimpleClick	Ours
Iterations	500k			
Optimizer	Adam			
Optimizer parameters	$lr=1e-3,$ $\beta_1 = 0.9, \beta_2 = 0.999$	$lr=5e-5,$ $\beta_1 = 0.9, \beta_2 = 0.999$	$lr=1e-3,$ $\beta_1 = 0.9, \beta_2 = 0.999$	$lr=1e-3,$ $\beta_1 = 0.9, \beta_2 = 0.999$
Batch size	8			
Scheduler	StepLR, 0.1 decay on the 10 and 20 epochs counted from the end			
Loss	Normalized Focal Sigmoid	Custom, as in the original paper	Normalized Focal Sigmoid	Custom, as in the main text
Input size	512x512			
Backbone	HRNet18S	HRNet18S1	PlainViTBase448	HRNet18S
n_{max}	20	24	20	20
t_{max}	3			

Table 2 and Figure 1 show a comparison of various numbers of landmarks used to represent the centerline. We picked $n_{ctr} = 33$, since it showed the best results in most of the comparisons. However, the optimal value of n_{ctr} can be different for other datasets and must be treated as a hyperparameter.

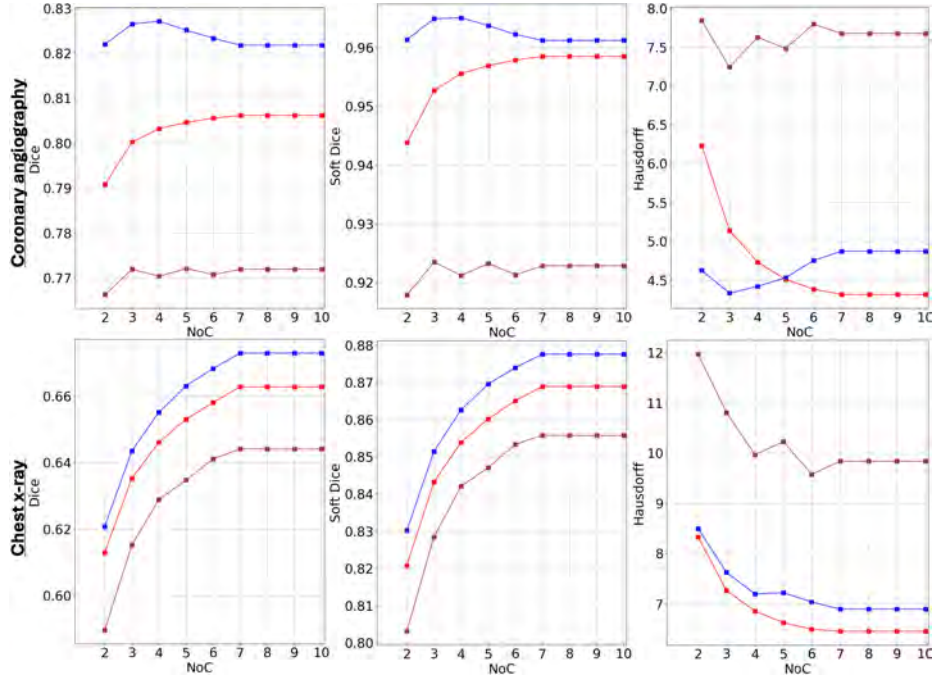


Fig. 1. Average metric values with respect to the number of clicks. *Red* - 17 landmarks on centerline, *blue* - 33, *brown* - 65.

Table 2. The comparison of required number of clicks (NoC) to reach certain metric value # (NoC#) for various number of points on centerline. Lower is better.

		Chest x-ray						
n_{ctr}	Dice		Soft Dice		Hausdorff		# ccs.	
	NoC85	NoC90	NoC90	NoC95	NoC4	NoC3	NoC2	NoC1
17	8.754	9.034	6.446	8.510	5.054	7.153	2.000	2.000
33	8.685	8.990	5.737	8.280	4.622	6.695	2.000	2.000
65	8.695	8.934	6.009	8.333	4.745	6.848	2.000	2.000
		Angiography						
	Dice		Soft Dice		Hausdorff		# ccs.	
	NoC85	NoC90	NoC90	NoC95	NoC4	NoC3	NoC2	NoC1
17	8.883	9.992	2.887	4.971	4.637	6.657	2.000	2.000
33	6.875	9.917	2.443	2.878	2.753	3.644	2.000	2.000
65	8.601	9.986	2.487	3.763	2.824	3.832	2.000	2.000