

Spiking Calibration¹

2022 年 5 月

Dataset	Network	Method	Metrics	ANN	$T = 32$	$T = 64$	$T = 128$	$T = 256$	KLDiv($T = 256$)
VOC2011ClassSeg	Fcn32s	P-Norm	pixel acc.	89.09	84.15	87.38	88.32	88.56	1061.68
			mean acc.	74.24	62.01	68.50	70.64	71.59	
			mean IU	59.54	44.85	53.94	56.82	57.67	
			f.w. IU	81.49	74.61	78.87	80.29	80.73	
		P-Norm + Burst	pixel acc.	89.09	84.82	87.81	88.57	88.75	773.45
			mean acc.	74.24	63.75	70.85	72.62	72.85	
			mean IU	59.54	46.74	55.76	58.24	58.62	
			f.w. IU	81.49	75.40	78.31	80.79	81.08	
		P-Norm + Burst + LIPooling	pixel acc.	89.09	83.44	87.74	88.86	89.07	92.21
			mean acc.	74.24	57.57	69.86	73.38	74.08	
			mean IU	59.54	42.92	55.04	58.76	59.45	
			f.w. IU	81.49	72.61	79.16	81.01	81.40	
		P-Norm + Burst + Spicalib(128)	pixel acc.	89.09	84.82	87.81	88.58	88.66	947.45
			mean acc.	74.24	63.75	70.85	72.62	73.24	
			mean IU	59.54	46.76	55.76	58.24	58.46	
			f.w. IU	81.49	57.51	75.40	80.79	81.04	
		P-Norm + Burst + LIPooling + Spicalib(128)	pixel acc.	89.09	83.44	87.74	88.86	89.07	68.40
			mean acc.	74.24	57.57	69.86	73.38	74.66	
			mean IU	59.54	42.92	55.04	58.76	59.56	
			f.w. IU	81.49	72.61	79.17	81.01	81.49	

- seed 均设为 23
- p 设置为 0.999

	Activation shape	# MACs	firing rate
Input:	(365,500,3)		0
CONV1(k=3,cin=3,cout=64,p=100)	(563,698,64)	365*500*3*64*3*3=313632000	0
RELU	(563,698,64)		0.024
CONV2(k=3,cin=64,cout=64,k=3)	(563,698,64)	563*698*64*64*3*3= 1448659354	0
RELU	()	(563,698,64)	0.012
CONV3(f=3,s=1)	(96,96,20)	184320	5420
MAXPOOL3	(48,48,20)	46080	0
CONV4(f=3,s=1)	(46,46,10)	21160	1810
MAXPOOL4	(23,23,10)	5290	0
FC5	(10,1)	10	52910

¹*:seed 23, train_batch 512, test_batch 1