

Supplementary: Simpler is Better: Few-shot Semantic Segmentation with Classifier Weight Transformer

1. Results with VGG-16 Backbone

Some previous methods conducted experiments with VGG-16 backbone. For a comprehensive comparison, we also report the results with VGG-16 on both datasets, COCO-20ⁱ and PASCAL-5ⁱ. The results show that we gain the same observation as that with other two backbones, ResNet-50 and ResNet-101. Concretely, the proposed CWT yields a new state-of-the-art performance on COCO-20ⁱ (see Table 1) for both 1-shot and 5-shot settings by a large margin. For PASCAL-5ⁱ results in Table 2, our method surpasses others for 5-shot case whilst it is comparable to the state-of-the-art for 1-shot case.

Backbone	Methods	1-shot					5-shot				
		s-0	s-1	s-2	s-3	Mean	s-0	s-1	s-2	s-3	Mean
VGG-16	PANet [5]	-	-	-	-	20.9	-	-	-	-	29.7
	FWB [1] (ICCV19)	18.4	16.7	19.6	25.4	20.0	20.9	19.2	21.9	28.4	22.6
	CWT (Ours)	28.0	32.0	31.4	28.0	29.9	35.1	39.5	34.5	36.2	36.3

Table 1. Few-shot semantic segmentation results on COCO-20ⁱ with VGG-16 backbone.

Backbone	Methods	1-shot					5-shot				
		s-0	s-1	s-2	s-3	Mean	s-0	s-1	s-2	s-3	Mean
VGG-16	OSLSM [3] (BMVC17)	33.6	55.3	40.9	33.5	40.8	35.9	58.1	42.7	39.1	44.0
	co-FCN [2] (ICLRW18)	36.7	50.6	44.9	32.4	41.1	37.5	50.0	44.1	33.9	41.4
	AMP [4] (ICCV19)	41.9	50.2	46.7	34.7	43.4	41.8	55.5	50.3	39.9	46.9
	PANet [5] (ICCV19)	42.3	58.0	51.1	41.2	48.1	51.8	64.6	59.8	46.5	55.7
	FWB [1] (ICCV19)	47.0	59.6	52.5	48.3	51.9	50.9	62.9	56.5	50.1	55.1
	SG-One [7] (TCYB20)	40.2	58.4	48.4	38.4	46.3	41.9	58.6	48.6	39.4	47.1
	RPMMs [6] (ECCV20)	47.1	65.8	50.6	48.5	53.0	50.0	66.5	51.9	47.6	54.0
	CWT (Ours)	48.9	59.8	56.7	42.8	52.1	53.0	64.5	64.1	48.8	57.6

Table 2. Few-shot semantic segmentation results on PASCAL-5ⁱ with VGG-16 backbone

References

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