Supplymentary Material for "Known-class Aware Self-ensemble for Open Set Domain Adaptation"

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In this Supplementary Material, we provide some details omitted in the main text.

- Section 1: The full experiments results in the Syn2Real-O dataset

1 The full experiments results in the Syn2Real-O dataset

As discussed in the main paper section 4, we apply a simple reweighting strategy for serveral baseline methods (i.e., DAN, AdaBN, DANN) to solve the class imbalance problem in the source domain. Here, we present the experiment results without using this operation in the table 1. We could find that the mAcc gain a lot after applying this strategy for all baseline methods.

References

[French *et al.*, 2018] Geoff French, Michal Mackiewicz, and Mark Fisher. Self-ensembling for visual domain adaptation. In *ICLR*, 2018.

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[Long *et al.*, 2016] Mingsheng Long, Han Zhu, Jianmin Wang, and Michael I Jordan. Unsupervised domain adaptation with residual transfer networks. In *NIPS*, 2016.

[Peng *et al.*, 2018] Xingchao Peng, Ben Usman, Kuniaki Saito, Neela Kaushik, Judy Hoffman, and Kate Saenko. Syn2real: A new benchmark forsynthetic-to-real visual domain adaptation. *ArXiv*, 2018.

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Table 1: The classification results on the Syn2Real-O. Results of "Source Only", AODA, and SE are taken from [Peng *et al.*, 2018].

Method	plane	byc	bus	car	horse	hse	cycl	psn	plant	sktbd	train	truck	ukn	mAcc
Source Only [Peng *et al.*, 2018]	23.1	24.2	43.1	40.0	44.1	0.0	56.1	2.0	24.0	8.3	47.0	1.1	**93.0**	31.2
DAN [Long *et al.*, 2016]	81.3	76.9	79.5	68.8	84.0	32.3	90.5	44.5	67.8	41.7	77.8	5.2	57.8	62.1
DAN (w/o class balance)	70.6	65.9	73.5	63.8	80.8	17.9	83.1	16.3	26.0	31.1	75.9	5.5	88.6	53.8
AdaBN [Li *et al.*, 2018]	74.5	63.7	77.0	63.9	78.3	24.2	89.1	38.0	33.9	39.0	75.4	5.6	69.3	56.3
AdaBN(w/o class balance)	72.3	70.3	77.2	65.6	83.3	8.6	84.3	21.3	31.3	28.5	67.8	7.4	85.6	54.1
DANN [Ganin and Lempitsky, 2015]	72.2	76.3	73.5	70.5	86.4	42.0	91.7	54.0	76.2	52.2	82.2	9.0	37.8	63.4
DANN (w/o class balance)	70.3	73.4	80.8	67.0	85.1	21.3	84.8	32.3	52.6	34.2	71.1	8.5	77.4	58.4
SE [French *et al.*, 2018]	**94.2**	74.1	86.1	68.1	**91.0**	26.1	**95.2**	46.0	**85.0**	40.4	79.2	11.0	51.0	65.2
AODA [Saito *et al.*, 2018]	80.2	63.1	59.1	63.1	83.2	12.1	89.1	5.0	61.0	14.0	79.2	0.0	69.0	52.2
Ours (w/o KAR and KAA)	90.2	78.1	84.9	**75.4**	90.3	25.1	94.0	51.3	76.2	38.1	73.3	9.8	62.5	65.3
Ours (w/o KAA)	89.8	82.1	83.6	64.8	87.8	46.9	91.0	65.5	76.7	54.4	**81.8**	15.9	42.9	67.9
Ours	89.0	**85.6**	**88.0**	62.7	89.8	**54.1**	90.5	**75.8**	81.1	**57.5**	79.4	**16.8**	41.8	**70.2**