

Table S1: Summary of all Semi-supervised learning experiments on the CityScapes datasets. LD indicates the total number of labeled data images used following previous state-of-the-art protocols. We use a 1:1.5 labeled to unlabeled image ratio as that is the maximum we are able to fit on the GPU, and use contrastive representation learning for all experiments. We report the results on the mIoU metric.

Dataset	Experiment	Epochs	Batch Size (Labeled)	Batch Size (Unlabeled)	Iterations Per Epoch	mIoU Run 1	mIoU Run 2
CityScapes	R50, 100 LD	240	2	3	400	59.99	61.00
	R50, 372 LD	240	2	3	200	72.92	73.56
	R50, 744 LD	240	2	3	200	74.75	75.34
CityScapes	R101D, 186 LD	240	2	3	400	70.89	71.89
	R101D, 372 LD	240	2	3	300	76.21	76.88
	R101D, 744 LD	240	2	3	300	77.86	78.39
	R101D, 1488 LD	240	2	3	400	79.58	79.64

## Supplemental Material

We will release all code towards reproducing the results in this paper post publication. We provide a full summary of our experiments on semi-supervised learning in Table S1. Table S2 reports the results on CityScapes for semi-supervised learning as a comparative analysis to previous state-of-the-art and class-wise performance on the IoU metric. Tables S3 and S4 report the class-wise IoU performance on CamVid and CityScapes datasets for Active learning respectively. We train all our models on 4 Nvidia V100 GPUs with 16GB, and use Pytorch [28] with Pytorch Lightning [14] for all our experiments. We also use 16-bit precision as needed, especially for training ResNet101-DeepStem encoder based DeepLabv3+ models.

Table S2: Semi-supervised learning results on the CityScapes dataset in terms of labeled images (the first column indicates the ratio of data usage, and the second column indicates the number of labeled samples). All numbers are reported on mIoU metric using a ResNet-101-DeepStem as the encoder with DeepLab-v3+, except those marked with \*, which indicates a ResNet-50 encoder to ensure fairness [40]. SupOnly stands for supervised training on the portion of labeled data, and SupOnly + Rep indicates a representation learning head is added to the decoder along with the prediction head.







		SupOnly	SupOnly + Rep	ST++ 	Mean Teacher 	CCT 	CPS 	AEL 	U <sup>2</sup> PL 	S4AL+
1/30	100	56.25*	58.29*	61.4*	-	-	-	-	-	61.00*
1/16	186	66.1	67.16	-	69.03	69.32	69.72	74.45	74.90	71.89
1/8	372	66.5*	68.3*	72.7*	-	-	-	-	-	73.56*
		71.08	72.22	-	72.06	74.12	74.31	75.55	76.48	76.88
1/4	744	68.7*	70.98*	73.8*	-	-	-	-	-	75.34*
		72.53	73.78	-	74.20	75.99	74.58	77.48	78.51	78.39
1/2	1488	76.75	77.42	-	78.15	78.10	76.81	79.01	79.12	79.64

Table S3: Active learning results on the CamVid dataset compared to the existing state of art, highlighting the total amount of data required. The results are reported on the IoU metric, and the numbers within the brackets () indicate the total labeled data usage.






	Sky	Building	Column Pole	Road	Side walk	Tree	Sign	Fence	Car	Pedestrian	Bicyclist	mIoU
S4AL  (13.8%)	91.51	82.30	15.54	91.52	72.05	73.59	40.11	31.17	78.99	48.65	49.55	61.36
S4AL+ (12.1%)	91.08	81.99	16.62	93.88	79.21	75.65	37.39	34.27	80.31	51.20	47.56	62.65
Supervised (100.0%)	91.48	81.36	20.84	93.90	79.30	75.17	40.58	33.76	79.97	49.83	52.86	63.55

Table S4: Active learning results on the CityScapes dataset compared to the existing state of art, highlighting the total amount of data required. The results are reported on the IoU metric, and the numbers within the brackets () indicate the total labeled data usage.

	Road	Side walk	Building	Wall	Fence	Pole	Traffic Light	Traffic Sign	Vegetation	Terrain
DEAL  (40%)	95.89	71.69	87.09	45.61	44.94	38.29	36.51	55.47	87.53	56.90
S4AL  (16.3%)	96.53	80.16	86.63	48.15	46.41	35.10	43.78	58.07	88.91	61.50
S4AL+ (15.1%)	97.38	79.07	87.87	43.69	46.47	32.24	41.94	57.35	89.14	57.89
Supervised (100%)	97.58	80.55	88.43	51.22	47.61	35.19	42.19	56.79	89.41	60.22
	Sky	Pedestrian	Rider	Car	Truck	Bus	Train	Motorcycle	Bicycle	mIoU
DEAL  (40%)	91.78	64.25	39.77	88.11	56.87	64.46	50.39	38.92	56.59	61.64
S4AL  (16.3%)	92.08	65.14	39.75	90.52	64.15	65.31	41.53	46.18	58.97	63.62
S4AL+ (15.1%)	92.47	67.23	43.44	90.34	49.47	66.37	54.72	47.34	64.01	63.60
Supervised (100%)	92.69	65.12	37.32	90.67	66.24	71.84	63.84	42.35	61.84	65.30