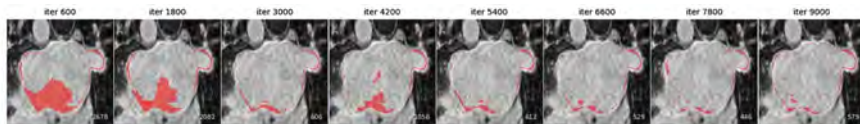


(a) BCP



(b) SDCL

Fig. 1: Visualization of bias error voxels generated during the training process for BCP and SDCL on the LA dataset. The numbers in the bottom right corner of the images indicate the count of bias error voxels.

Table 1: Hyper paramerters ablation results for different values of γ and μ on the pancreas dataset.

Scans used		Hyper Parameterter		Metrics			
Lb	Unlb	γ	μ	Dice	Jac	95HD	ASD
12	50	0.3	0.05	84.90	74.01	5.45	1.41
		0.3	0.1	85.04	74.23	5.22	1.48
		0.3	0.15	84.76	73.82	5.97	1.76
		0.2	0.1	84.84	73.90	4.87	1.41
		0.3	0.1	85.04	74.23	5.22	1.48
		0.4	0.1	84.81	73.85	5.29	1.42

$$\mathcal{D}_{KL}(u||\hat{y}) = \sum_{c=0}^{K-1} u^{(x,y,z)}(c) \log \frac{u^{(x,y,z)}(c)}{\hat{y}^{(x,y,z)}(c)} \quad (1)$$

$$\mathcal{L}_{mse}(\hat{y}, y) = \sum_{c=0}^{K-1} \|\hat{y}^{(x,y,z)}(c) - y^{(x,y,z)}(c)\|_2^2 \quad (2)$$

Eq. (1) represents the KL divergence for each voxel, and Eq. (2) represents the mean square error for each voxel.

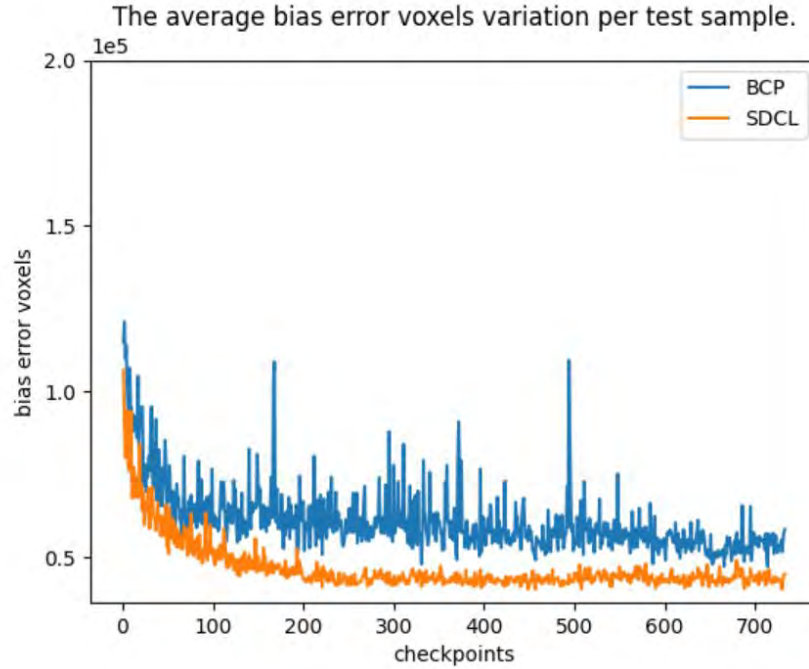


Fig. 2: Comparison of the variation in the number of bias error voxels during the training process for BCP and SDCL methods on the LA dataset, with a checkpoint taken every 15 iterations.

Table 2: Performance (mean \pm standard deviation, the standard deviation for both Dice and Jac is the result of not multiplying by 100%) on the LA, Pancreas, and ACDC datasets over five random seeds, including the average segmentation results using students A and B (V-Net+ResV-Net / U-Net+ResU-Net), as well as the individual segmentation results for student A (V-Net / U-Net) and student B (ResV-Net / ResU-Net).

Dataset	Method	Scans used		Metrics			
		Lb	Unlb	Dice	Jac	95HD	ASD
Pancreas-CT	V-Net+ResV-Net			85.04 \pm 0.001	74.22 \pm 0.001	5.22 \pm 0.682	1.48 \pm 0.182
	V-Net	12	50	84.46 \pm 0.001	73.36 \pm 0.002	5.32 \pm 0.884	1.60 \pm 0.239
	ResV-Net			84.38 \pm 0.003	73.28 \pm 0.004	7.47 \pm 2.046	2.16 \pm 0.364
Left Atrium	V-Net+ResV-Net			92.35 \pm 0.001	85.83 \pm 0.001	4.22 \pm 0.123	1.44 \pm 0.035
	V-Net	8	72	92.02 \pm 0.001	85.27 \pm 0.001	4.51 \pm 0.116	1.57 \pm 0.022
	ResV-Net			92.22 \pm 0.001	85.61 \pm 0.001	4.46 \pm 0.144	1.52 \pm 0.116
ACDC	U-Net+ResU-Net			90.92 \pm 0.001	83.83 \pm 0.001	1.29 \pm 0.123	0.34 \pm 0.037
	U-Net	7	63	90.65 \pm 0.001	83.39 \pm 0.001	1.35 \pm 0.095	0.41 \pm 0.046
	ResU-Net			90.28 \pm 0.001	82.81 \pm 0.001	1.94 \pm 0.342	0.51 \pm 0.090