

Weakly Supervised Learning of Cortical Surface Reconstruction from Segmentations Supplementary Material

Table 1. Comparative results between TA-Nets fully supervised by pGT cortical surfaces and weakly supervised by pGT segmentations (CoSeg) on the HCP dataset. The weakly supervised CoSeg achieves comparable results to the fully supervised case.

Supervision	White Surface			Pial Surface		
	ASSD↓	HD90↓	Dice↑	ASSD↓	HD90↓	Dice↑
Cortical Surfaces	0.168	0.374	0.966	0.242	0.515	0.972
Segmentations	0.177	0.389	0.966	0.257	0.553	0.973

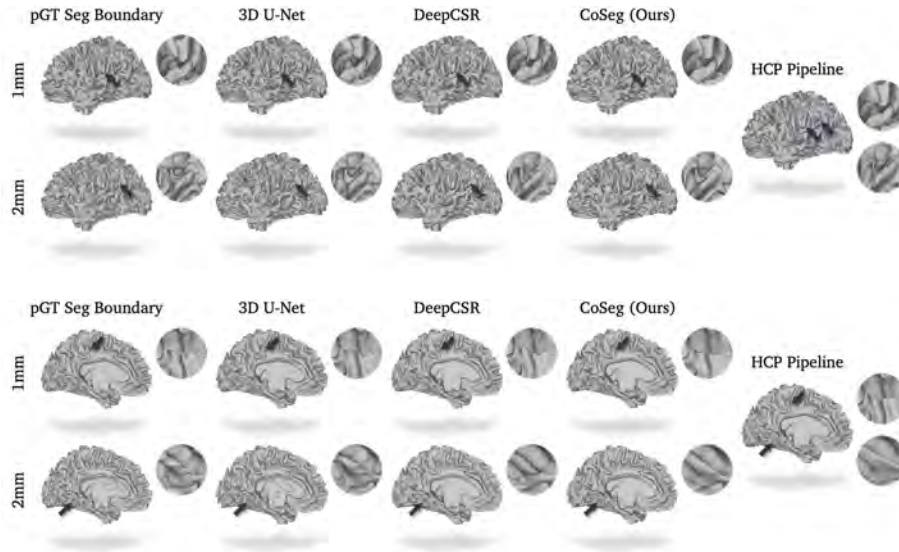


Fig. 1. White surfaces predicted by implicit approaches on the HCP dataset. Top: lateral view. Bottom: medial view.

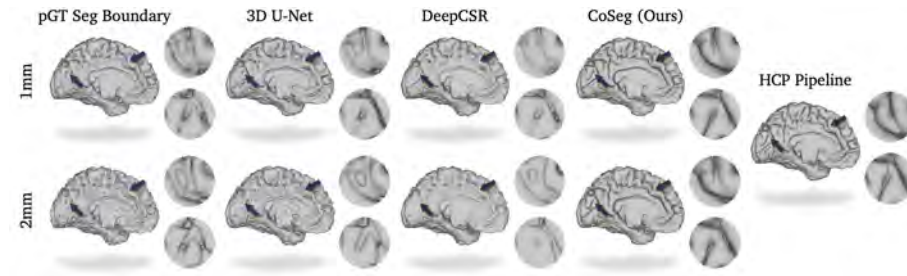


Fig. 2. Pial surfaces (medial view) predicted by implicit approaches on the HCP dataset.

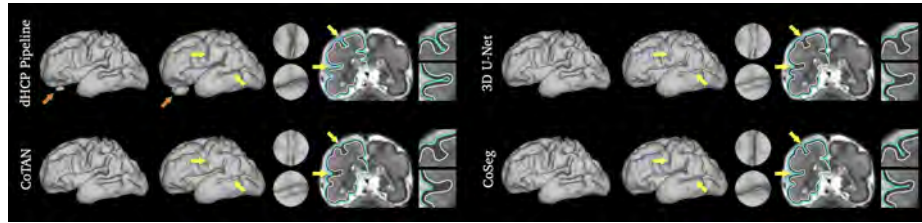


Fig. 3. Cortical surfaces of a 29.4-week subject in the dHCP fetal dataset.

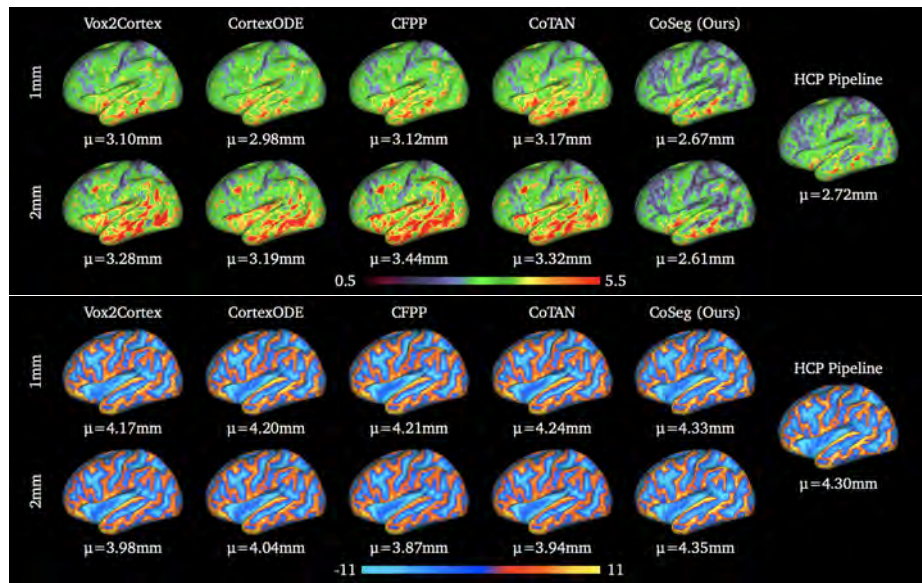


Fig. 4. Cortical thickness (top) and sulcal depth (bottom) of cortical surfaces predicted by explicit learning-based approaches. Compared to CoSeg and the HCP pipeline, other baseline approaches show greater cortical thickness and shallower sulcal depth since they fail to capture the cortical sulci.

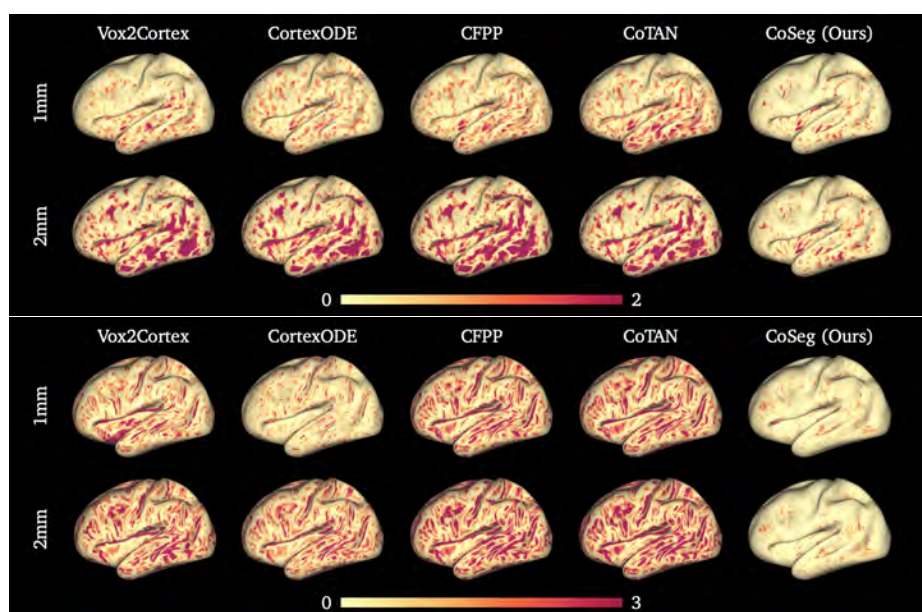


Fig. 5. The error maps (mm) of cortical thickness (top) and sulcal depth (bottom) for explicit learning-based approaches. CoSeg achieves the best morphological accuracy.