Supplementary Materials of Anatomically-Guided Segmentation of Cerebral Microbleeds in T1-weighted and T2*-weighted MRI

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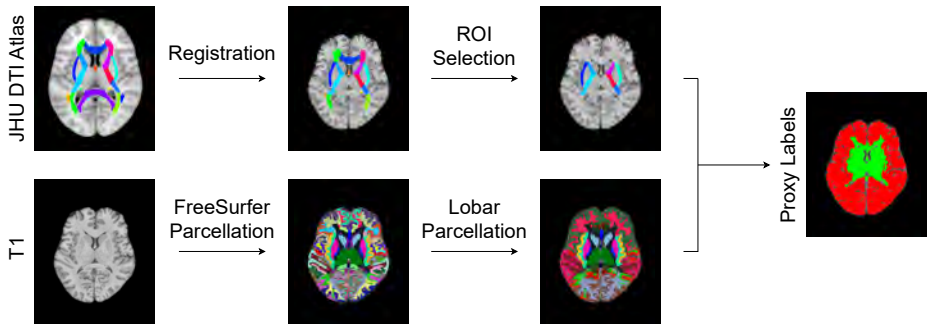

Fig. S1. An overview of our proxy label generation process. The JHU DTI atlas is registered from the MNI152 space to the subject's T1 space via FreeSurfer's Talairach transformation. Only the internal capsule and external capsule regions are selected. At the same time, brain regions are automatically labeled through FreeSurfer parcellation. Subsequently, lobar parcellation is performed to divide the supratentorial region into lobar and deep parts. Finally, the proxy label is generated following the CMB identification criteria.

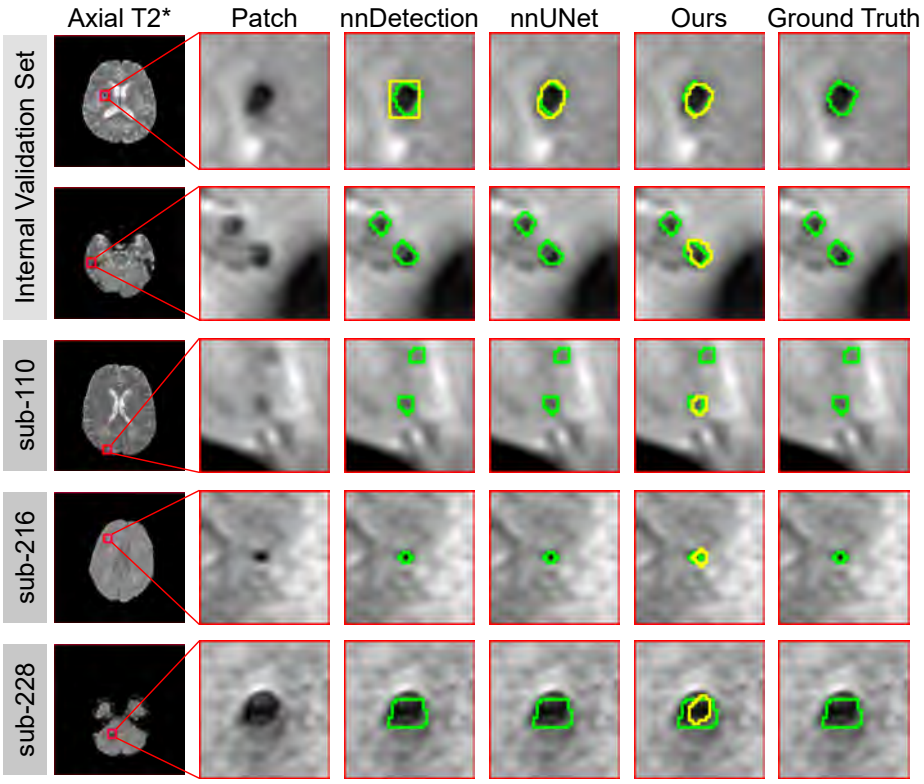

Fig. S2. Additional results of our proposed method with nnDetection and nnUNet on the internal validation set and external dataset, including challenging cases with poor contrast. The poor contrast has been caused by the variation in repetition time among scanners: the T2*-weighted GRE sequence in the RSS study has a repetition time of 45 ms, which significantly differs from the 1288 ms in the SABRE study and 1300 ms in the ALFA study. Yellow denotes the outline of predicted cerebral microbleeds and green denotes the outline of ground truth labels. For sub-216, there is no sign of signal hyperintensity in CSF regions.