

I. SUPPLEMENTARY MATERIALS

A. Example Scans with Synthesized Pathologies

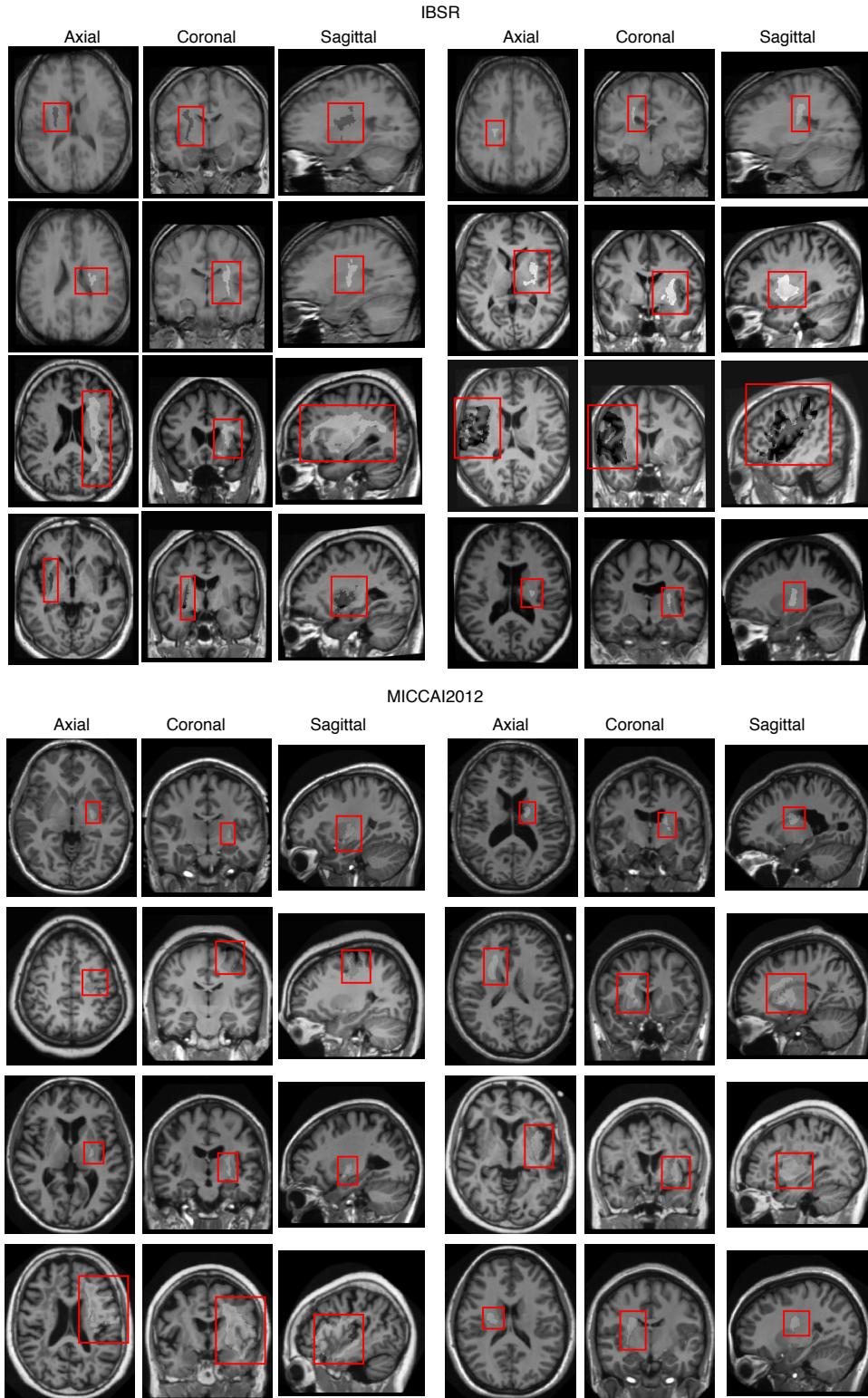


Fig. 1. 16 examples of the augmented scans with synthesized pathologies from IBSR and MICCAI2012 datasets. Each 3D scan is visualized with axial, coronal and sagittal views that contain pathologies. Red boxes localize the pathological areas.

B. Example Segmentation Results on Pathological Scans

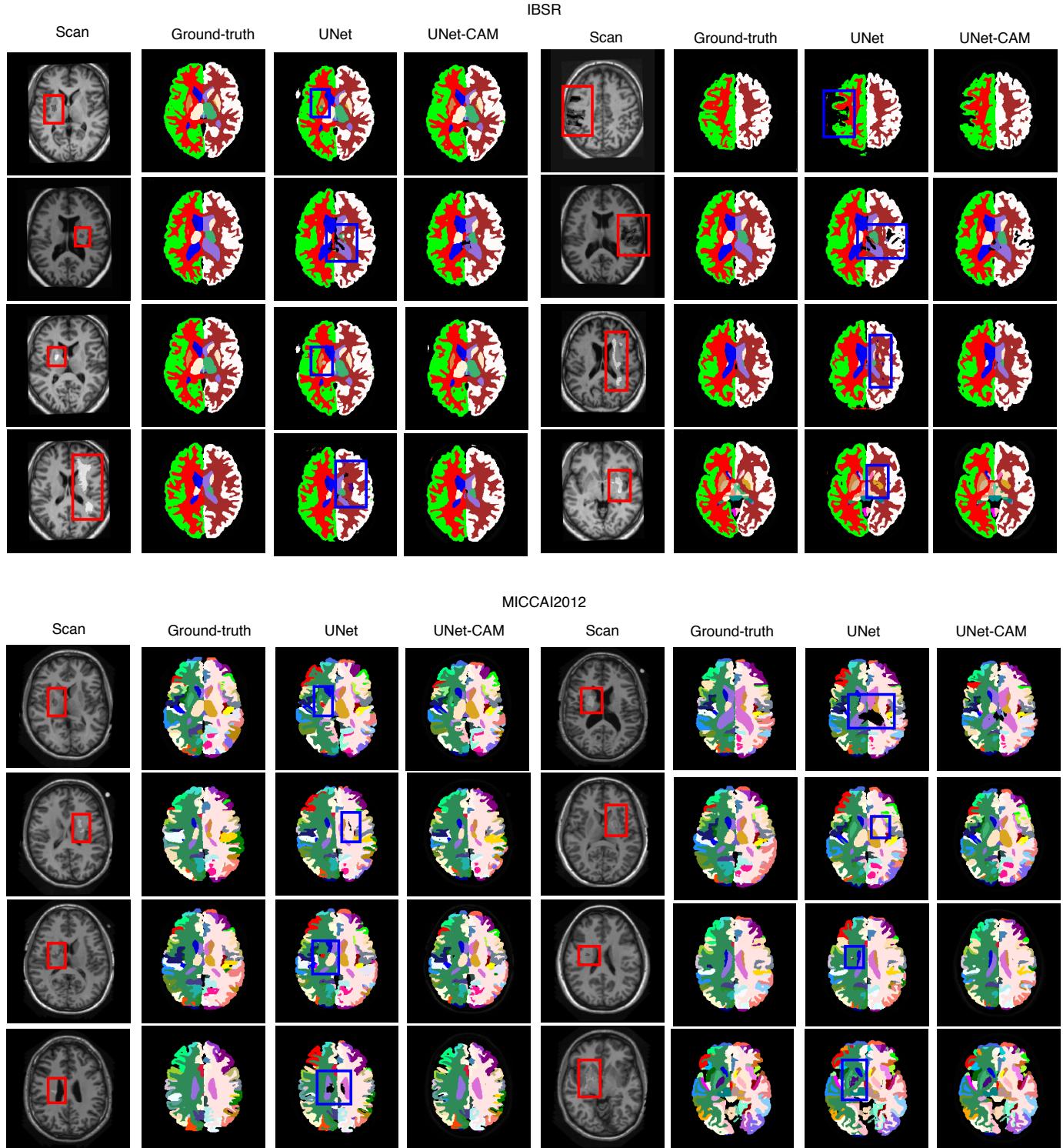


Fig. 2. Segmentation on 16 examples scans with pathologies from IBSR and MICCAI2012 datasets. Results from UNet and UNet-CAM are compared. Each 3D scan and its segmentation map are visualized with the axial view. Red boxes localize the pathological areas. Blue boxes highlight the spurious segmentation within UNet results, while UNet-CAM largely reduces the errors.

C. Overlapping Anatomies in IBSR and MICCAI2012 for Cross-Dataset Evaluation

TABLE I

OVERLAPPING ANATOMY ANNOTATIONS WITHIN IBSR AND MICCAI2012 DATASETS, WHICH ARE USED FOR CROSS-DATASET TRAINING EXPERIMENTS.

Anatomy name	Label in MICCAI2012	Label in IBSR
Brain stem	7	16
Right caudate	8	50
Left caudate	9	11
Right hippocampus	17	53
Left hippocampus	18	17
Right lateral ventricle	21	43
Left lateral ventricle	22	4
Right pallidum	23	52
Left pallidum	24	13
Right putamen	25	51
Left putamen	26	12
Right thalamus proper	27	49
Left thalamus proper	28	10
Right ventral DC	29	60
Left ventral DC	30	28