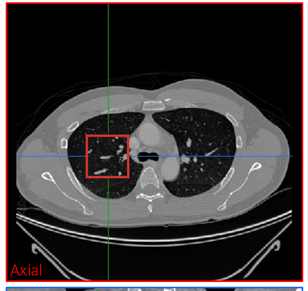
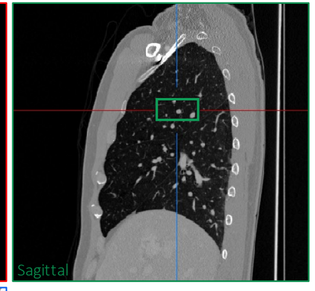
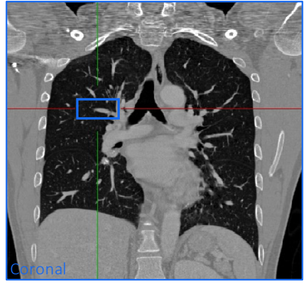






$f(\cdot)$: Transformation

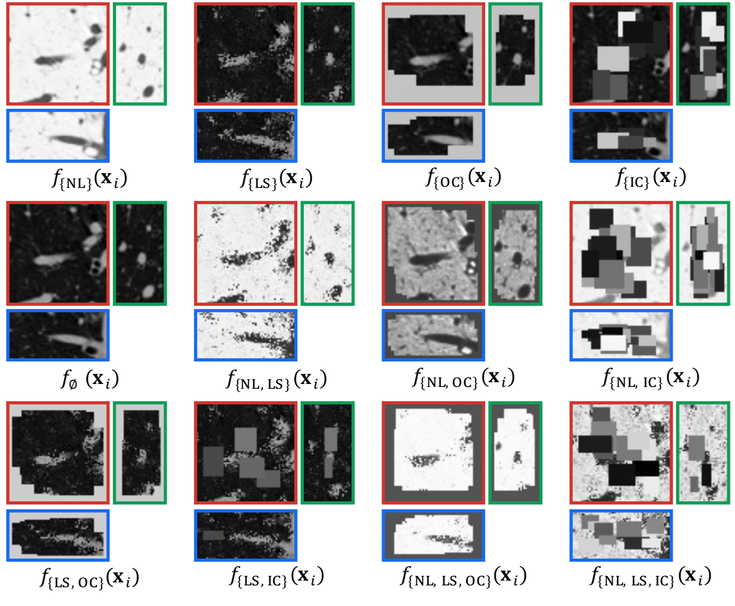
NL: Non-linear

LS: Local-shuffling

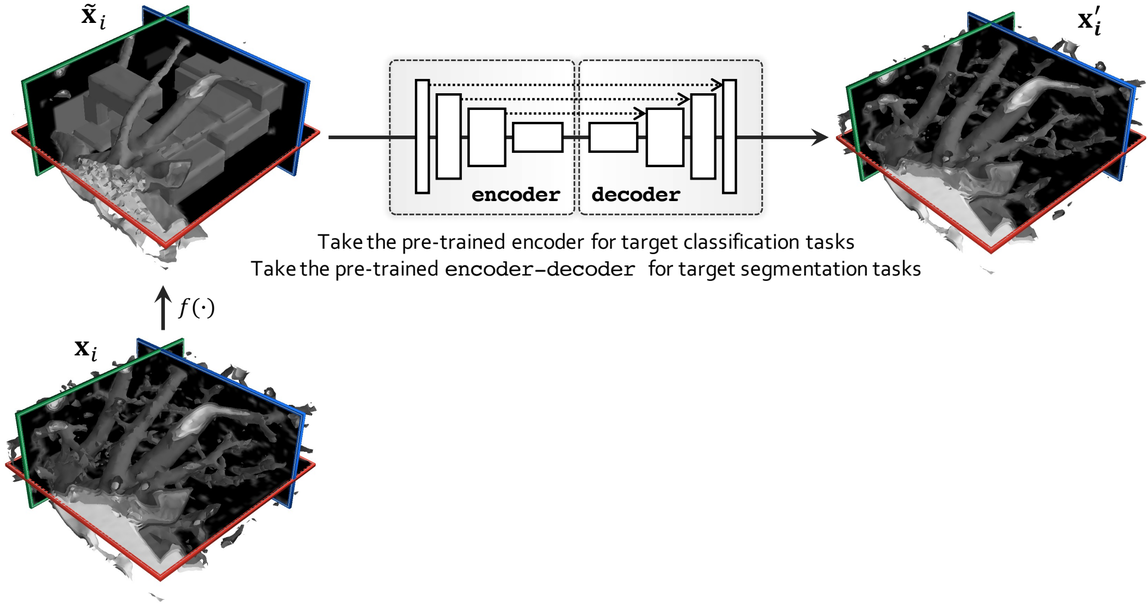
OC: Outer-cutout

IC: Inner-cutout

1. Crop a 3D sub-volume from the original CT scan



2. Elect image transformations to the sub-volume ($\mathbf{x}_i$)



Take the pre-trained encoder for target classification tasks

Take the pre-trained `encoder–decoder` for target segmentation tasks

3. Train a model to restore the original sub-volume