Deep Adversarial Networks for Stroke Lesion Segmentation

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Abstract. Training models that provide accurate stroke lesion segmentation for stroke assessment is challenging. Methods based on deep convolutional neural networks usually rely on large amounts of annotated data. The small lesion area and limited size of available acute magnetic resonance imaging (MRI) data would degrade the quality of result using such approaches due to over-fitting the training data. To deal with this problem, we adopt two deep neural networks with adversarial training [1]. [2] shows that this technique could generate a regularization effect and result in less over-fitting to the training data. Our model ensemble two deep convolutional neural networks inspired by the U-Net[3]. Other technique such as data augmentation and batch normalization are adopted to further improve the final result.

References

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