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Medical image semantic segmentation based on deep learning

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Abstract

The image semantic segmentation has been extensively studying. The modern methods rely on the deep convolutional neural networks, which can be trained to address this problem. A few years ago networks require the huge dataset to be trained. However, the recent advances in deep learning allow training networks on the small datasets, which is a critical issue for medical images, since the hospitals and research organizations usually do not provide the huge amount of data. In this paper, we address medical image semantic segmentation problem by applying the modern CNN model. Moreover, the recent achievements in deep learning allow processing the whole image per time by applying concepts of the fully convolutional neural network. Our qualitative and quantitate experiment results demonstrated that modern CNN can successfully tackle the medical image semantic segmentation problem.

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Ethics declarations

Conflict of interest

The authors declared that they have no conflicts of interest to this work. We declare that we do not have any commercial or associative interest that represents a conflict of interest in connection with the work submitted.

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