

Automatic brain tissue segmentation in patients with Multiple Sclerosis using Convolutional Neural Networks

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1 Method description

In this paper, we introduce an automatic technique for segmenting brain tissue in patients presenting Multiple sclerosis using Convolutional Neural Networks. The presented proposal is evaluated using the MRBrainS13 dataset. Since the paper is still in process, only a brief description is given. Note that this information will be extended once the work is published.

Topic	Answer
Approach	CNN
Automatic	Yes
Inputs	T1-w, FLAIR
Runtime per scan	~ 3 min
Skull stripping	BET [1]
Pre-processing	SUSAN [2]
Post-processing	None
Trained with other sources	No
Number of labels	3

Table 1. Characteristics of the proposed approach

References

1. S.M. Smith. Fast robust automated brain extraction. *Human Brain Mapping*, 17(3):143-155, November 2002.
2. S.M. Smith and J.M. Brady. SUSAN - a new approach to low level image processing. *International Journal of Computer Vision*, 23(1):4578, May 1997.