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constructed; therefore, an atlas is containing of the prior information about di erent tissues in the brain. e atlas-based methods use these pre-labeled images and prior anatomical information for the segmentation process. ese methods mostly are consisted of three main steps such as registration, label propagation and nal segmentation. A huge amount of work has been done in this area, because of the ability of these methods for MRI image segmentation [40-45].

Conclusions

Di erent methods have been proposed for MRI brain image segmentation, but a general method has not been proposed yet. Unsupervised methods do not use prior information; therefore, these methods cannot use this information for increasing their nal results, thus they mostly produce a lower accuracy as compared to supervised methods especially in the real datasets. Moreover, supervised methods need label data for training, which are generated by experts; therefore, it consumes many resources and in the most cases this work is expensive. Consequently, medical image segmentation and especially brain segmentation issue is an open problem which needs to be more accurate and precise than the other non-medical image segmentation applications.

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