

# A Study of Techniques for Segmenting the Spinal Cord

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**Abstract:** *The spinal cord is one of the most important organs that controls communication between the brain and various parts of the body. It is highly susceptible to harmful infections and many diseases. An important criterion of clinical management is the appropriate localization and division of the spinal cord. Segmentation poses risks associated with variation in human anatomy and contrast variation in Magnetic Resonance Imaging. Therefore, an effective segmentation technique should be developed for effective division of the spinal cord and disc localization. In comparison, the survey contained here in provides an overview of different segmentation schemes for spinal cord segmentation. Now, there is an urgent need to develop an effective segmentation approach that is better than the current one segmentation methods. In this research article, a detailed survey of the various research activities presented by specific segmentation schemes based on the semi-automated, active contour model, Introduced partitioning, deformable model, probabilistic model and graph based partitioning. In addition, in-depth analysis and discussion are provided in accordance with the year of publication, evaluation dimensions, segmentation scheme, and magnetic Resonance Image Datasets, Dice Equivalence Coefficient (DSC), Accuracy.*

**Keywords:** Segmentation, IVD, MRI, Spinal Cord, Dice Equivalence Coefficient (DSC)

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