Segmentation of Medical Images using Mean Value Guided Contour

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Highlights

- Applying the mean value theorem in contour repositioning to enhance the accuracy of medical image segmentation.
- Not using energy minimization makes the proposed model the promising capability in complex geometries, irreducible convergence speed in the saddle and stationary points, recovering boundary ruptures, and the ability to not rounding the edges of the contour.
- Unlike the standard optimization methods, the user gets rid of numerous parameters that should be manually set during the segmentation.
- The model runs very fast; *e.g.,* the speed is more than 1400 times faster than Gauss-newton optimization that is one of the methods with best performance.