

Research Highlight: A wavelet frame method with shape prior for ultrasound video segmentation

Work of Professor SHEN Zuowei

Image segmentation, the process of separating a digital image into multiple sections for individual examination, is frequently used in medical image analysis. For example, segmentation in ultrasound footage helps identify boundaries and regions of interest (ROI) that facilitate image interpretation. Efficient segmentation of ultrasound videos, however, is often complicated by low contrast, shadow effects, and complex “noise” statistics (unexplained variations). In addition, real-time applications such as navigation during operational surgery require efficient algorithms.

In an article published recently in the SIAM Journal on Imaging Sciences, authors Jiulong Liu, Xiaoqun Zhang, Bin Dong, Zuowei Shen, and Lixu Gu propose a video segmentation model to recognize ROI in ultrasounds. This article has been featured in SIAM Nugget and SIAM News, at the following link

<http://connect.siam.org/segmenting-ultrasound-video-with-a-wavelet-variational-model/#more-6392>