

عنوان مقاله:

Ultrasound Image Segmentation by Using a FIR Neural Network

محل انتشار:

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خلاصه مقاله:

Ultrasound (US) image segmentation is a difficult task because of its heavy speckle noise, low quality and blurry boundaries. In this paper, a new neural network based method is proposed for ultrasound images segmentation. A modified self organizing map (SOM) network, named finite impulse response SOM (FIR-SOM), is utilized to segment ultrasound images. A two dimensional (2D) discrete wavelet transform (DWT) is used to build the input feature space of the network. Experimental results show that FIR-SOM discovers the pattern of the input image properly and is robust against noise. Segmentation results of breast ultrasound images (BUS) demonstrate that there is a strong correlation between tumor region selected by a physician and the tumor region segmented by our proposed method

کلمات کلیدی:

Artificial neural network (ANN), ultrasound image (US) segmentation, computer aided diagnosis (CAD) systems

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