ANALYSIS AND RECOGNITION CARDIAC SOUND USING WAVELET AND JST IN CLASSIFYING TYPE OF HEART VALVE DISORDERS IN HUMANS

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ABSTRACT

Heart valve abnormalities are detected and signaled by the presence of heart murmur caused no operation with good cardiac function, among other causes of hemodynamic disturbance or disruption of the distribution of blood circulation throughout the body. Therefore, early action by recognizing the sound patterns of a heart murmur can help to avoid hemodynamic disturbance or the other. Until now, doctors are still using the heart sound signals to monitor the performance of the heart using a stethoscope that its use produces a weak voice. To diagnose the necessary sensitivity and experience greatly influence the interpretation of results, so the diagnosis is still strongly influenced by the subjectivity of the doctor.

So many feature extraction methods used in pattern recognition of heart sounds, but in the present study the process of pattern recognition of heart sounds using wavelet and neural network.

From the results of feature extraction and pattern recognition process of the heart sounds of some types of heart valve abnormalities, which made the system can recognize 80% to the pattern of normal heart sounds, 80% for heart murmurs sistolic sound patterns, sound patterns of 82.4% for diastolic heart murmurs and 30% for heart sound pattern of continuous murmurs. For the continuous murmur of data types visible in recognizing the level of performance is very bad, due to the phase of the cardiac cycle can not be known for certain that this type of murmur is difficult to recognize because it forms a random pattern of his voice.

Key words: Wavelet, Neural Networks, Heart Valve disorders