DETECTION AND IDENTIFICATION OF COMMON MURMURS IN HEART USING ARTIFICIAL NEURAL NETWORK

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By

RAJAGURU WASALA MUDIYANSELAGE NARMADA DILRUKSHI RAJAGURU

Registration Number: UWU/CST/09/0035

Computer Science and Technology
Uva Wellassa University, Sri Lanka

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Abstract

According to the World Health Organization Heart diseases continue to remain within four major no communicable diseases in the world. So it is important to have an attention to every one's heart themselves. Today medical professionals are the one who uses stethoscope to check someone's heart.

So It's important to implement a system a person can use a stethoscope at home and check whether his/her heart is healthier or not. It is a time and money saving effort. Professionals can use these systems to confirm their decision and they can make this a s a change for the old manual method. Recently, many research efforts have been carried out to apply artificial intelligence (AI) to auscultation based method for rigorous detection/classification of heart murmurs but accuracy rates are not always high. Most of the proposed systems have been using ECG or Electronic Stethoscope to implement to the system. In this project I tried to get the input through an Acoustic Stethoscope and implement the system. To implement the hardware Acoustic tubing was used and heart pulse is amplified and fed into computer as a digital signal. Recording was done there and clearly recorded sound was used to reduce noise. Then signal was used to feature extraction and neural network training.

MATLAB language was used to create User Interfaces, segmentation and neural network. Time spectrum was analyzed for each heart sound .Supervised learning applied to Neural network using feed-forward algorithm.