1 Abstract

One the widely used heart-condition examining method is phonocardiogram (PCG), a plot of high-fidelity recording of the sounds and murmurs made by the heart with the help of the machine called the phonocardiograph. By analyzing PCG record doctors can detect abnormal heart activity that classifies for special treatment. Such classification requires expert knowledge and can be very time consuming. By introducing programs for initial PCG classification we can reduce time spent on PCG analyzing.

From algorithmic point of view the problem described in this paper belongs to the well known classification-problem category. Such issues are usually solved in three steps: segmentation, feature extraction and classification. Whereas classification step has been widely described, there are many good classifiers and approaches towards distinguishing elements in whole set, segmentation and feature extraction need more flexible approach. Every problem needs its own, individual solution. For the sake of the Physionet competition, segmentation has already been prepared, which uses state-of-the-art algorithms.

Samples used in this work were provided by Physionet challenge and were accessible during its duration. Whole records set consisted of XXX files containing PCG recordings grouped in 6 folders.