Analysis of ECGs Survey Data by Applying Clustering Algorithm

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Abstract : As Indo-pak has been the victim of heart diseases since many decades. Many surveys showed that percentage of cardiac patients is increasing in Pakistan day by day, and special attention is needed to pay on this issue. The framework is proposed for performing detailed analysis of ECG survey data which is conducted for measuring the prevalence of heart diseases statistics in Pakistan. The ECG survey data is evaluated or filtered by using automated Minnesota codes and only those ECGs are used for further analysis which is fulfilling the standardized conditions mentioned in the Minnesota codes. Then feature selection is performed by applying proposed algorithm based on discernibility matrix, for selecting relevant features from the database. Clustering is performed for exposing natural clusters from the ECG survey data by applying spectral clustering algorithm using fuzzy c means algorithm. The hidden patterns and interesting relationships which have been exposed after this analysis are useful for further detailed analysis and for many other multiple purposes.

Keywords : arrhythmias, centroids, ECG, clustering, discernibility matrix
Conference Title : ICFIE 2015 : International Conference on Fuzzy Information and Engineering
Conference Location : Istanbul, Türkiye
Conference Dates : August 17-18, 2015