**Predicting Heart Attacks**

Abstract

In this paper, the use of multiple machine learning algorithms for arrhythmia analysis is explored. We present different models built by multi-class supported vector machines (SVM), multi-class Nave Bayes (NB), decision tree and random forest. The performance of the various models in predicting the presence of cardiac arrhythmia and further classifying the instances into 16 pre-defined groups is tested and presented. The random forest classier outperforms other algorithms with a test accuracy of 76%. We provide a discussion on the results of different models, together with some insight about of data set.

Heart attack is one of the most pressing problems of the health care industry. In general, the patient's reports have to be carefully scrutinized by doctors to make a diagnosis of a heart failure. This research study is an attempt to reduce the efforts and time put in by the doctor by automating the risk prediction with the help of a binary classifier. A prototype implementation of such a system with an easy-to-use user interface is presented in this paper. The graphic user interface is web based and Naïve Bayes algorithm was used to build the classifier. The resulting system gave an accuracy score of 81.25%.