Abstract

In this research work, alternative seven algorithms that have low overhead have been evaluated for detecting and predicting heart failure risk (HFR). Thirteen risk factors have been considered for the automating the prediction process using machine learning algorithm. Correlation and Histogram based analysis shows that at least four to five parameters vary together. Using this criterion the number of minimum risk factors to label a patient as low or high risk. Secondly, criteria to group the patients were with the help of binning the data based on medical normal ranges for a person. It was found that the Logistic Regression and Linear Discriminant algorithm is best suited for classification of heart failure risk as its results are numerically stable, consistent, reliable, and reproducible. This was validated using tenfold validation process.


Index Terms

Computer Science

Data Mining

Keywords

Heart failure risk, Classification, Prediction.