

VISUALIZING AND PREDICTING HEART DISEASES WITH INTERACTIVE DASHBOARD

Problem Statement

Heart is one the most vital organ in the human body. When we talk about heart diseases, we can have multiple conditions where heart is not working the way it should be like blockage in blood vessels. According to many researches that have been conducted through a period of time have found out that heart failure and heart disease has been the cruel cause of death in human beings. What aggravates this situation is that most of these diseases are being diagnosed at later stages at which it is very difficult to control. But if somehow, we can diagnose these diseases at its early stage, then we can surely cure the disease. The main aim of this paper is to use various classification algorithms of data science framework to somehow detect the chances of having a heart disease. Also, the main aim of this research paper is to find out the most efficient classification algorithm that can help us to detect heart diseases at early stage. This algorithm can be used on heart records of the patient or by using it on classification reports. This research was conducted and tested upon various algorithms to test its accuracy like Logistic Regression, Random Forest, Vector Support and XG Boost. After applying these algorithms of prediction model has been developed.

Heart disease is perceived as the deadliest disease in human life across the world. Predicting and diagnosing heart disease is the biggest challenge in the medical industry and it is based on factors like physical examination, symptoms and signs of the patient. The advancement of technologies allows machine language to pair with big data tools to handle unstructured and exponentially growing data. The major challenge in heart disease is its detection. There are instruments available which can predict heart disease but either they are expensive or are not efficient to calculate the chance of heart disease in humans. Early detection of cardiac diseases can decrease the mortality rate and overall complications. However, it is not possible to monitor patients every day in all cases accurately and consultation of a patient for 24 hours by a doctor is not available since it requires more patience, time and expertise. Since there is a good amount of data in today's world, the team can use various machine learning algorithms to analyze the data for hidden patterns. The hidden patterns can be used for health diagnosis in medicinal data.