

## Project Planning Phase

### LITERATURE SURVEY

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| Date         | 20 SEPTEMBER 2022   |
| Team ID      | PNT2022TMID02869  |
| Project Name | Visualizing and Predicting Heart Diseases withan Interactive Dash Board |

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 Prediction using Exploratory Data Analysis and Visualization**

The risk factors that causes heart disease is considered and predicted using K-means algorithm and the analysis is carried out using a publicly available data for heart disease. The dataset holds 209 records with 8 attributes such as age, chest pain type, blood pressure, blood glucose level, ECG in rest, heart rate and four types of chest pain. To predict the heart disease, K-means clustering algorithm is used along with data analytics and visualization tool. The paper discusses the pre-processing methods, classifier performances and evaluation metrics. In the result section, the visualized data shows that the prediction is accurate.

#### **Prediction of heart disease at early stage using data mining and big data analytics: A survey**

Several studies have been carried out for developing prediction model using individual technique and also by combining two or more techniques. This paper provides a quick and easy review and understanding of available prediction models using data mining from 2004 to 2016. The comparison shows the accuracy level of each model given by different researchers.