Predicting Heart Disease

By George Bennett

Image Source:
https://www.health.harvard.edu/heart-health/cardiovascular-disease-and-heart-disease-whats-the-difference

Hello I am George Bennett and this is the overview of my project on predicting heart disease.

Problem Statement

- Given simple measurements it is our job to predict whether a patient has heart disease

In this project we were given several measurements from patients along with information on whether they had heart disease or not. My goal is to find out the risk factors for heart disease as well as create a machine learning model to help screen for it.

Business Value

- Heart Disease is the number one cause of death in America
- Accurately predicting heart disease can save lives and resources
- We can find what information matters

This project is beneficial because heart disease is the number one cause of death in America, predicting it can save lives and valuable resources, and the information can be spread to health professionals around the world.

Methodology

- Making comparisons to find relationships
- Using statistical methods to find the most important measurements
- Have a machine make consistent predictions

Image source:
https://towardsdatascience.com/40-statistics-interview-problems-and-answers-for-data-scientists-6971a02b7eee

In this project I make comparisons to see if different measurements have an impact. I then use statistical methods to find the most important risk factors. Finally I create a machine learning model to help screen for heart disease.

Findings

- Females are more likely to have heart disease
- Risk factors are the same for both genders
- Age does not seem to be significant
- Maximum heart rate plays a big role
- Able to detect disease 86% of the time

Some things I learned are:

- Females are more likely to have heart disease
- Risk factors are the same for both genders
- Age does not seem to be a significant risk factor
- The maximum heart rate measurement is a key indicator
- The model can detect disease 86% of the time

Business Recommendations

- Screen patients' max heart rates
- Implement ML models to back up doctors
- Let female patients know they are at higher risk

Future Work

- More measurements should be applied for better results
- These techniques could be used on most diseases

In the future I can continue this work. Some suggestions would be to obtain new types of measurements for better results and we can also use these techniques to help fight a range of diseases.