HEART DISEASE ANALYIS(EDA)

Introduction

Of all the applications of machine-learning, diagnosing any serious disease using a black box is always going to be a hard sell. If the output from a model is the particular course of treatment (potentially with side-effects), or surgery, or the *absence* of treatment, people are going to want to know **why**.This dataset gives a number of variables along with a target condition of having or not having heart disease.

PROBLEM DESCRIPTION: The "goal" field refers to the presence of heart disease in the patient. It is integer valued from 0 (no presence) to 4.

ATTRIBUTE INFO:

Here's what they mean,

* **age**: The person's age in years
* **sex**: The person's sex (1 = male, 0 = female)
* **cp:** The chest pain experienced (Value 1: typical angina, Value 2: atypical angina, Value 3: non-anginal pain, Value 4: asymptomatic)
* **trestbps:** The person's resting blood pressure (mm Hg on admission to the hospital)
* **chol:** The person's cholesterol measurement in mg/dl
* **fbs:** The person's fasting blood sugar (> 120 mg/dl, 1 = true; 0 = false)
* **restecg:** Resting electrocardiographic measurement (0 = normal, 1 = having ST-T wave abnormality, 2 = showing probable or definite left ventricular hypertrophy by Estes' criteria)
* **thalach:** The person's maximum heart rate achieved
* **exang:** Exercise induced angina (1 = yes; 0 = no)
* **oldpeak:** ST depression induced by exercise relative to rest ('ST' relates to positions on the ECG plot. See more [here](https://litfl.com/st-segment-ecg-library/))
* **slope:** the slope of the peak exercise ST segment (Value 1: upsloping, Value 2: flat, Value 3: downsloping)
* **ca:** The number of major vessels (0-3)
* **thal:** A blood disorder called thalassemia (3 = normal; 6 = fixed defect; 7 = reversable defect)
* **target:** Heart disease (0 = no, 1 = yes)