Heart Disease Prediction

The UCI heart disease prediction dataset is a multivariate type of dataset. It is composed of 14 attributes which are age, sex, chest pain type, resting blood pressure, serum cholesterol, fasting blood sugar, resting electrocardiographic results, maximum heart rate achieved, exercise-induced angina, oldpeak — ST depression induced by exercise relative to rest, the slope of the peak exercise ST segment, number of major vessels and Thalassemia. This database includes 76 attributes, but all published studies relate to the use of a subset of 14 of them. The dataset used here is from the Cleveland database. One of the major tasks on this dataset is to predict based on the given attributes of a patient whether that particular person has heart disease or not and another is the experimental task to diagnose and find out various insights from this dataset.

Dataset Description :

age: The person's age in years

sex: The person's sex (1 = male, 0 = female)

cp: chest pain type

- Value 0: asymptomatic
- Value 1: atypical angina
- Value 2: non-anginal pain
- Value 3: typical angina

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 results

Value 0: showing probable or definite left ventricular hypertrophy by Estes' criteria

Value 1: normal

Value 2: having ST-T wave abnormality (T wave inversions and/or ST elevation or depression of > 0.05 mV)

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.)

slope: the slope of the peak exercise ST segment — 0: downsloping; 1: flat; 2: upsloping

ca: The number of major vessels (0–3)

thal: A blood disorder called thalassemia Value 0: NULL (dropped from the dataset previously

- **Value 1: fixed defect (no blood flow in some part of the heart)**
- **Value 2: normal blood flow**
- **Value 3: reversible defect (a blood flow is observed but it is not normal)**

target: Heart disease (1 = yes, 0= no)