Explanation of ML Model

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Project link : http://rahulpatil35.pythonanywhere.com

*The "**goal**" of this project is to find the presence of heart disease in the patient.*

Logistic Regression

Logistic regression is a supervised learning classification algorithm used to predict the probability of a target variable. The nature of target or dependent variable is dichotomous, which means there would be only two possible classes.

Mathematically, a logistic regression model predicts P(Y=1) as a function of X

Features & Target

Features list

- age
- sex
- chest pain type (4 values)
- resting blood pressure
- serum cholesterol in mg/dl
- fasting blood sugar > 120 mg/dl
- resting electrocardiographic results (values 0,1,2)
- 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 (0-3) coloured by fluoroscopy
- thal (4 values)

Target list

- result (values 0,1 | 0: heart disease not present, 1: heart disease present)

This is a definition list:

Features

: A feature is a measurable property of the object you're trying to analyse. In datasets, features appear as columns.

Target

: The target variable of a dataset is the feature of a dataset about which you want to gain a deeper understanding.

Libraries & Packages

pandas, sci-kit learn, matplotlib, numpy, os, pickle, flask, flask_mail, sqlite3

Validations

Validation is the process of checking whether the given input/product is up to the mark..

- **Age** - 10 to 130
- **Blood Pressure** - 80 to 200
- **Cholesterol** - 100 to 600
- **Heart Rate** - 70 to 210
- **Oldpeak** - 0.0 to 6.0

Future Scope

1. Model can be made more accurate using more attributes and/or more amount of data
2. API of the project can be made which can be used directly by Third-Party Applications.
3. Separate Admin Panel and Dashboard for Medical Staff and Users can be implemented
4. Passwords can be *encrypted* before they are stored in Database.
5. Nearest Hospital Locations can be displayed using Geo-location and *Google Maps API*

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