Cardiovascular Prediction

Documentation

Project Timeline

Time

Data Analaysis and Exploration

- Understanding the shape of data
- Classifying the data into boolean, categorical and continious data
- Estimating the correlation matrix between the fetaures and scrutening the model.

Data Preprocessing

- managing the null values

Model Decision, tuning and fitting the model

- Deciding the training model based on the explorative data analysis
- Tuning the model based on randomized serach cv
- Fitting the data based on the best paramters estimated from search results

Server creaton and deployment

- Local server is created in flask enivoronment and the trained machine learning model and preprocess fucntions are integrated with the server
- Server prototype is created and exception handling is checked.

Designing UI and merged with server

- A well crafted user friendly UI is deisgned and care is taken to prompt user with appropriate response.
- Steps are taken to alert the user with pertinent in case of incompatible input data

Creation of cloud server and delpoyment

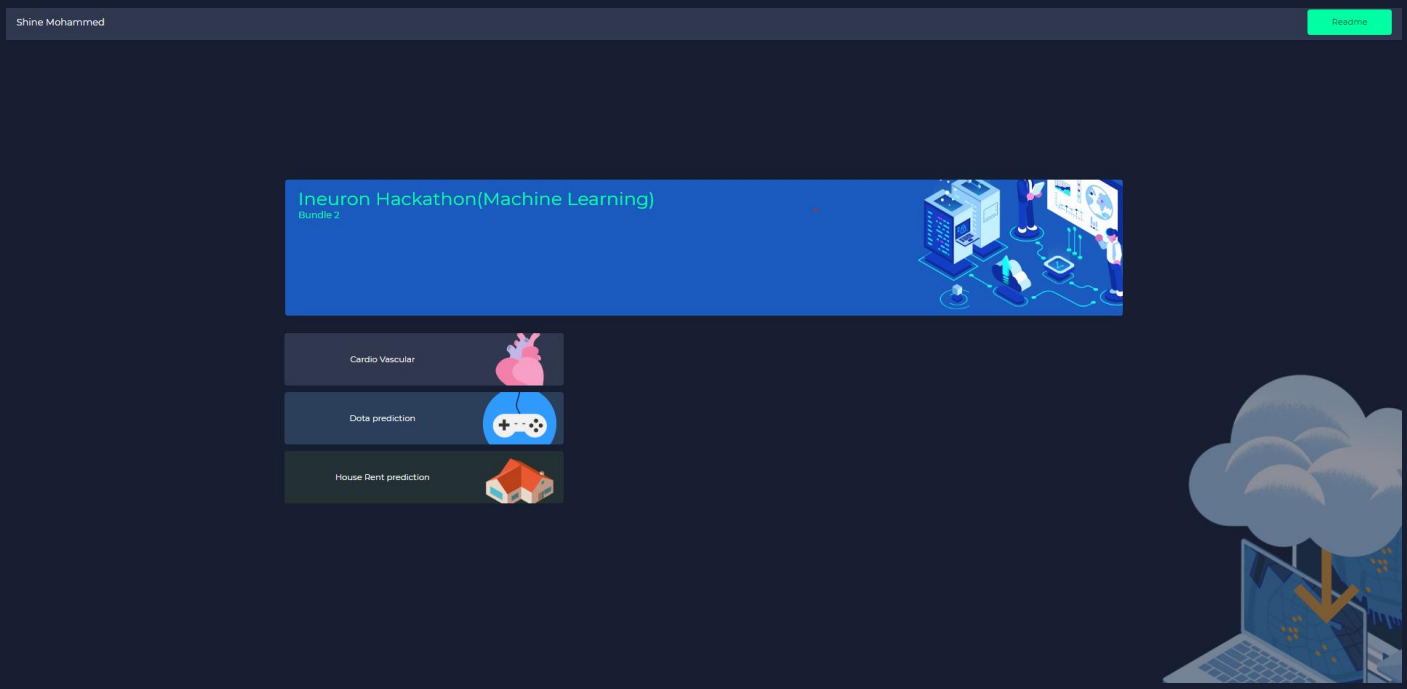
- Amazon EC2 instance is created in linux environment.
- The project is deployed in the cloud in port number 8080using SSH authentication
- And the applictaion works like a breeze

Application Structure

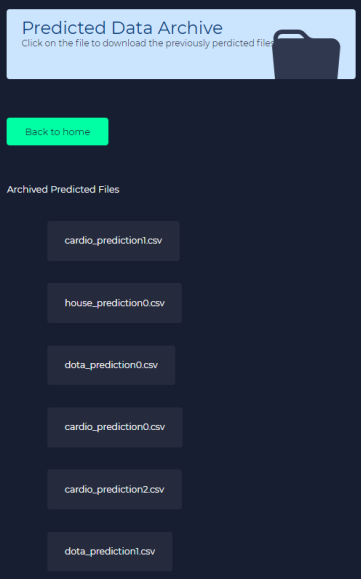
UI Documentation

Public_url : http://ec2-3-6-92-45.ap-south-1.compute.amazonaws.com:8080/

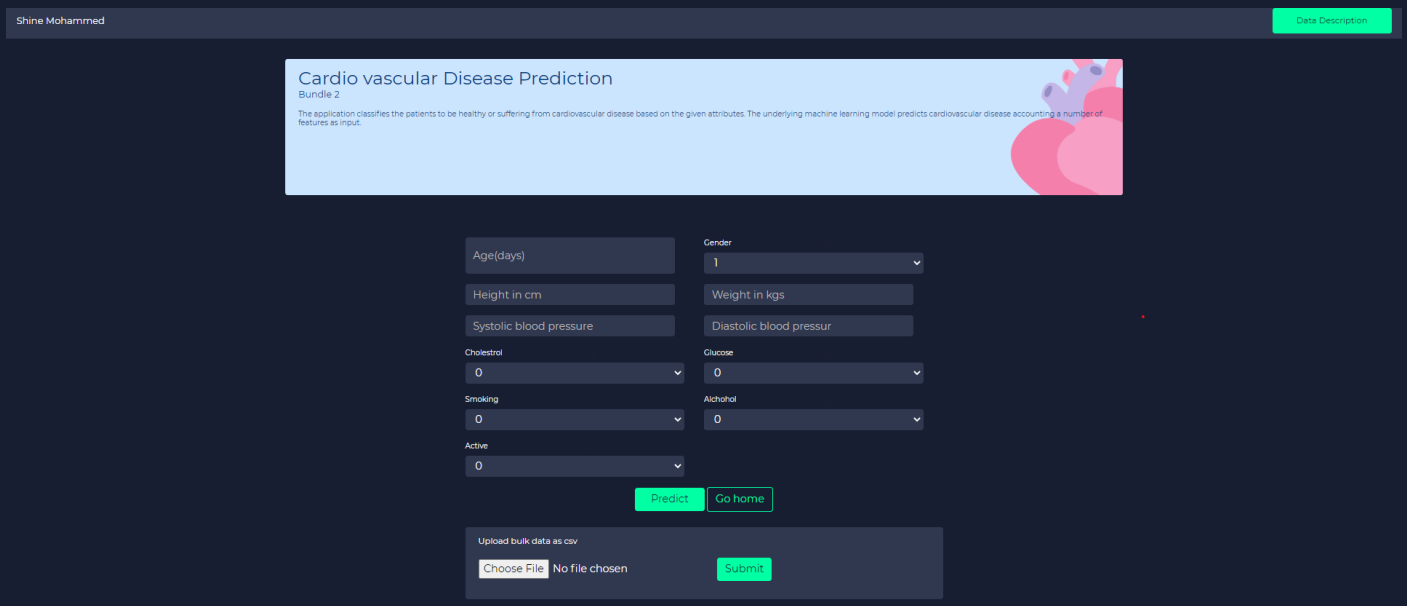
Dashboard : A well binded single UI dashboard is implemented to route to respective the model prediction page.



Predicted archive files : One stop place for all previously predicted data, that the download will be triggered on click.



Cardio disease prediction page: Dedicated web page u=is designed for easy prediction of data and as form values and bulk csv.



Data description page: A guideline page to show the data attributes and the sequence at which the csv file must be arranged.

#	Attribute	Description	Range
1	Age	Age in days	0 to inf
2	Gender	1 for male and 0 for female	0 or 1
3	Height	height in cm	o to sensible
4	Weihgt	weight in kgs	0 to sensible
5	Systoloc blood pressure	High pressure	between 100 to 150 normally
6	Diastoloc blood pressure	Low blood pressure	80 to 130 normally
7	Cholestrol	cholestrol level on a scale of 0 to 3	0 to 3
8	Glucose	GLucose level from 0 to 3	0 to 3
9	Smoking	smooing binary	0 or 1
10	Alchohol	consumption of alchohol binary	0 or 1
11	active	physically active binary	0 or 1