PRESENTATION ON

FINAL YEAR PROJECT

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PREDICO

THE SMART HEALTH CARE PREDICTOR

Introduction

With the advancement in technology, Machine Learning is becoming more popular and commonly used technology by industry experts for solving problems faced in real life. Machine Learning is the scientific study of algorithms and statistical models that computer use to perform a specific task without using explicit instructions, relying on patterns and inference instead. Machine Learning is also used by the healthcare industry to bring advancement in their techniques so that they can provide better services to their patients. The disease prediction system predicts diseases based on patient's symptoms/measures and also some commonly prescribed medicines for a particular disease. Our diagnosis model can act as a doctor for the early diagnosis of a disease to ensure the treatment can take place on time and lives can be saved.

OBJECTIVE

- The main purpose of thiis project is to create a virtual health care system which provides one stop solution to predict a particular disease. It takes the symptoms/measures from user as input and characterise the illness using ml algorithm to track down the disease with which a person is affected.

- As a result of which we have a clear cut idea abot the disease and get the medicine requirements for the treatment. This model helps in lowering the cost required in dealing with proper disease.

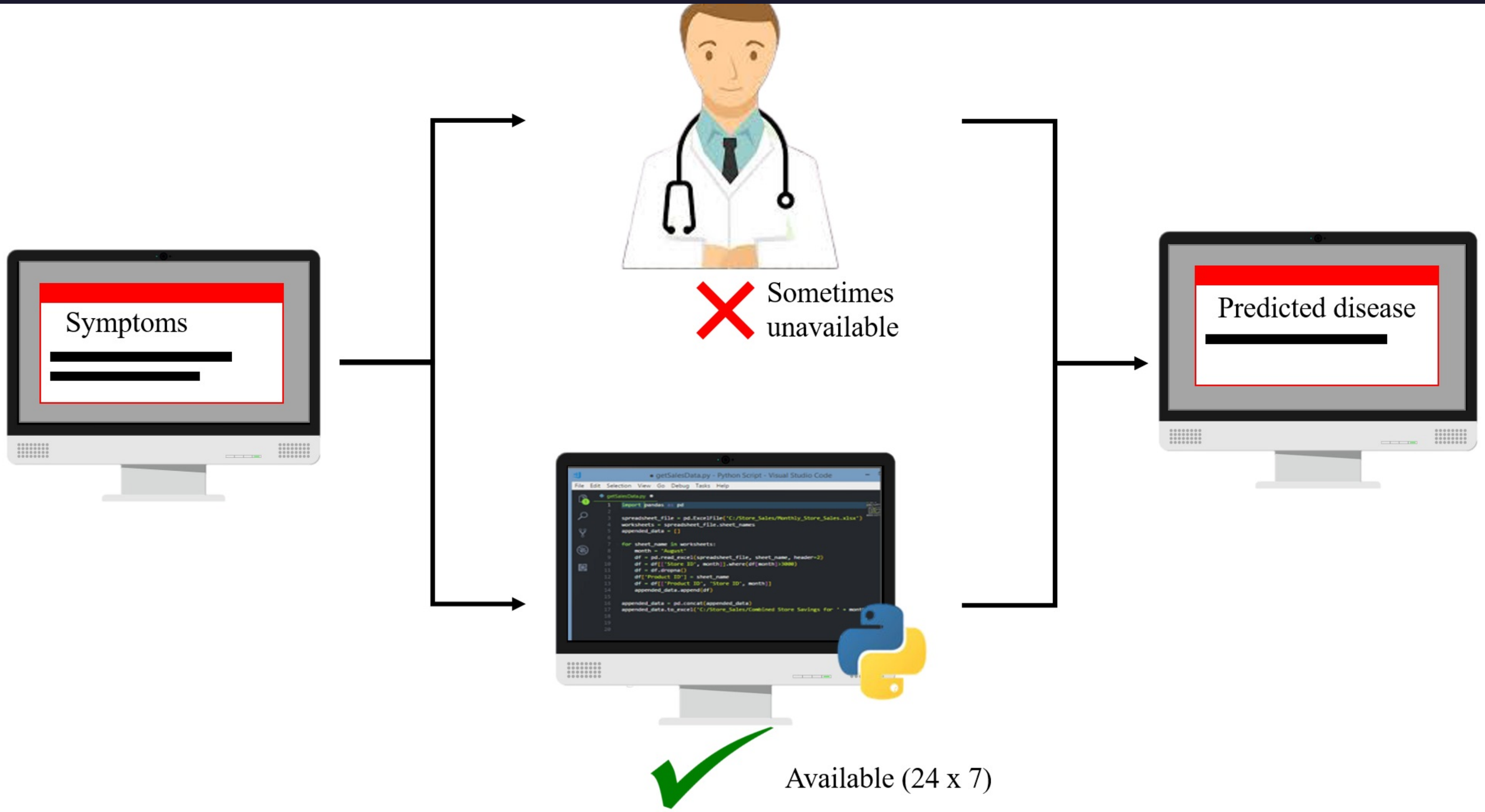
- Our diagnosis model can act as a doctor for the early diagnosis of a disease to ensure the treatment can take place on time and lives can be saved.

PROPOSED SYSTEM

In the proposed system, a disease prediction model is built using 4 Machine Learning algorithm that are Support Vector Machine(SVM), Decision Tree, Random Forest and Logistic Regression. Based on the symptoms/measures that are input by the user, the disease is predicted. Which in turn helped the doctor in proper diagnosis of disease.

HOW IT WORKS

- It takes the measures of the user as input and characterizes the illnesses by utilizing the ML algorithm.
- To track down the most affecting danger factors causing these illnesses.
- Also a assistant bot named Predo is also integrated with it so that it can provide immediate assistance to the user.


Symptoms
Sometimes unavailable
Predicted disease
Available (24 x 7)

Steps for Deploying the Project

Analyzing the problem statement & requirements.

Collect and clean the data.

Prepare data for ML application.

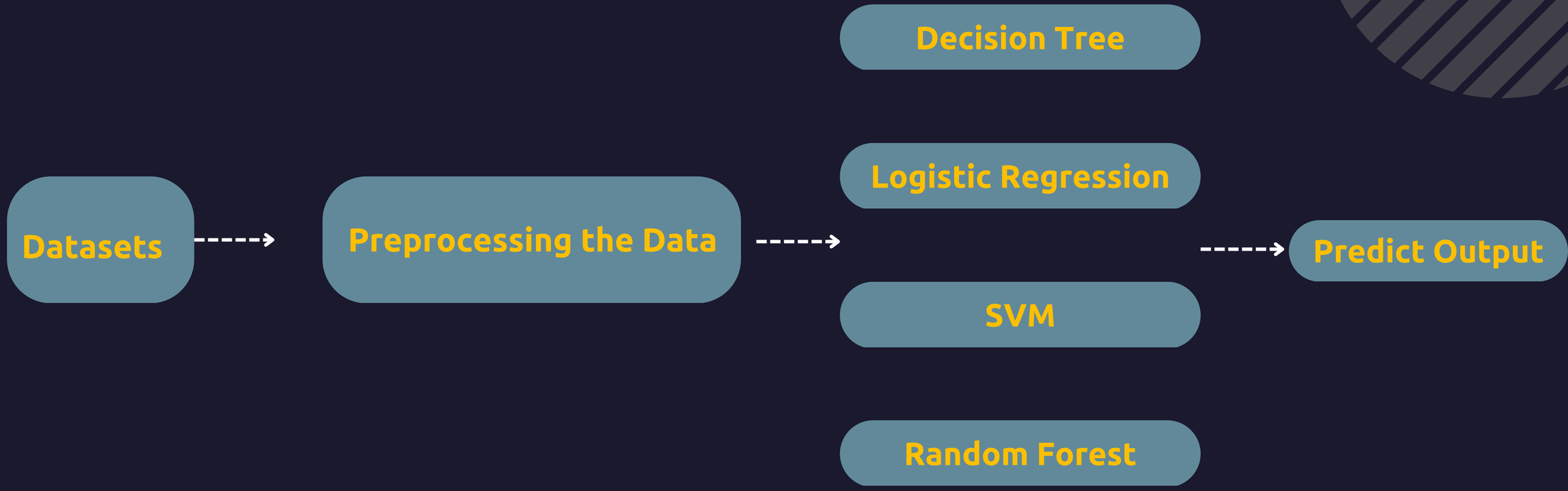
Train and TestingModel.

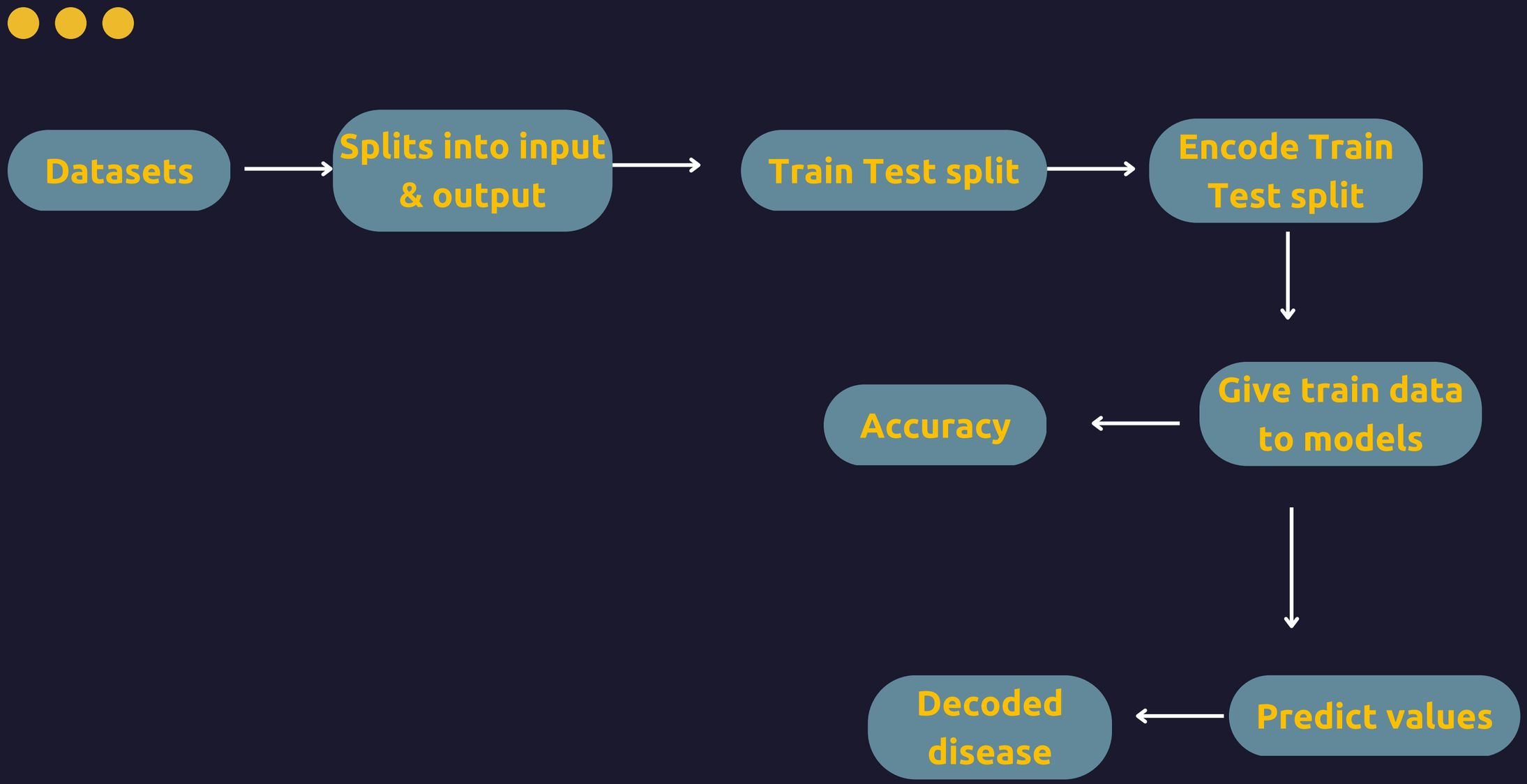
Model Accuracy

Preparing GUI Interface

Uploading to Server

FLOW CHARTS

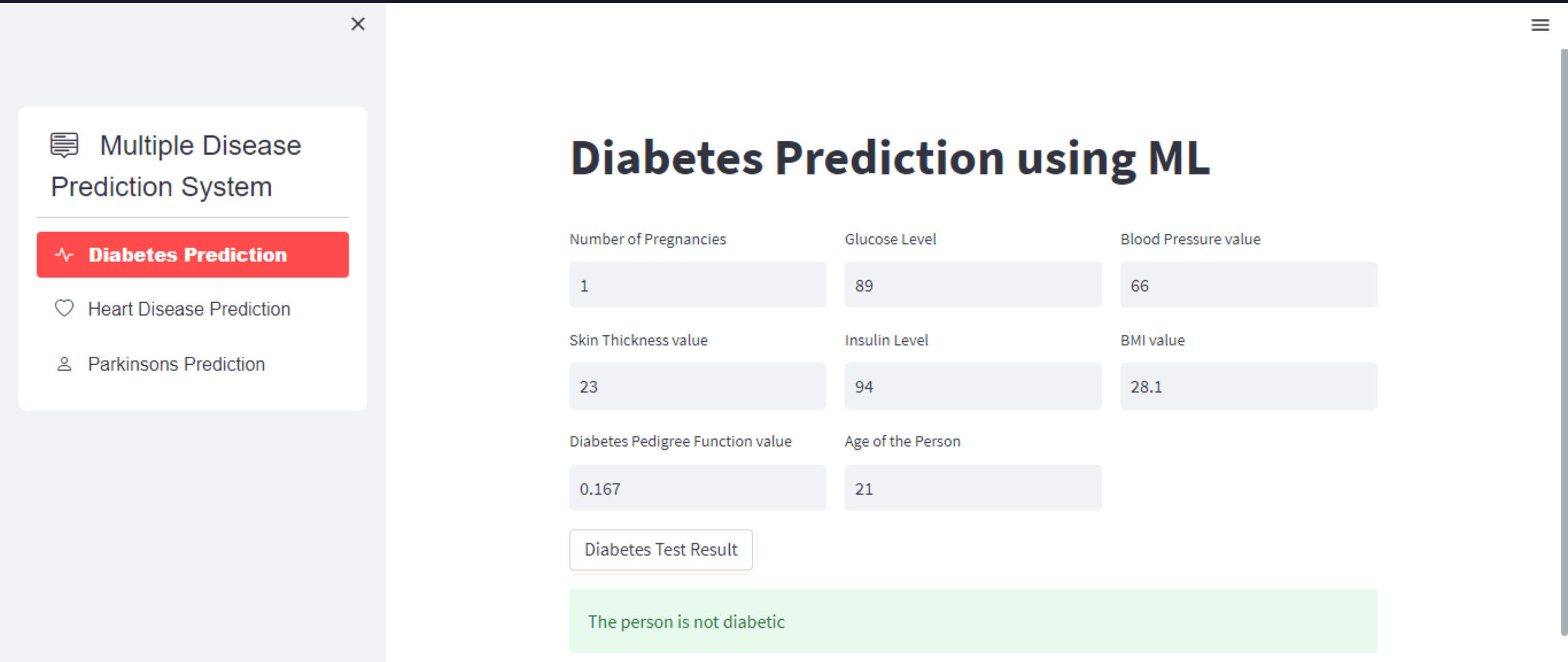

Datasets
Preprocessing the Data
Decision Tree
Logistic Regression
SVM
Random Forest
Predict Output


Datasets
Splits into input & output
Train Test split
Encode Train Test split
Give train data to models
Accuracy
Predict values
Decoded disease

SCOPE OF FUTURE WORKS

In future we can implement a database(My Sql) where the inputs from users get save and thereafter from the data stored, we get sources of data in csv/xcls format for further review. From the users data later, anyone can easily get down the data from database for further visual analysis using power bi or any visualization tools.

SCREENSHOTS



Multiple Disease Prediction System

- Diabetes Prediction
- **Heart Disease Prediction**
- Parkinsons Prediction

Age:
56.00

Sex: 1 = Male; 0 = Female
1.00

Chest Pain types
1.00

Resting Blood Pressure
120.00

Serum Cholestoral in mg/dl
236.00

Fasting Blood Sugar > 120 mg/dl
0.00

Resting Electrocardiographic results
1.00

Maximum Heart Rate achieved
178.00

Exercise Induced Angina
0.00

ST depression induced by exercise
0.80

Slope of the peak exercise ST segment
2.00

Major vessels colored by flourosopy
0.00

thal: 0 = normal; 1 = fixed defect; 2 = reversable defect
2.00

Heart Disease Test Result

The person is having heart disease

Multiple Disease Prediction System

Diabetes Prediction

Heart Disease Prediction

Parkinsons Prediction

using ML

MDVP:Fo(Hz)	MDVP:Fhi(Hz)	MDVP:Flo(Hz)	MDVP:Jitter(%)	MDVP:Jitter(Abs)
95.73	132.068	91.75	0.00551	0.00006

MDVP:RAP	MDVP:PPQ	Jitter:DDP	MDVP:Shimmer	MDVP:Shimmer(dB)
0.00293	0.0033	0.0088	0.0209	0.191

Shimmer:APQ3	Shimmer:APQ5	MDVP:APQ	Shimmer:DDA	NHR
0.0107	0.012	0.0171	0.0321	0.0107

HNR	RPDE	DFA	spread1	spread2
21.812	0.637	0.763	-6.167	0.183

D2	PPE
2.064	0.163

Parkinson's Test Result

The person has Parkinson's disease

Multiple Disease Prediction System

- Diabetes Prediction
- Heart Disease Prediction
- Parkinsons Prediction
- **Covid-19 Prediction**
- General Disease Prediction
- Predo-Bot

Enter Your Name

Apurba

Rate Of Dry Cough (0-20)

10 − +

Rate Of Fever (0-20)

9 − +

Rate Of Sore Throat (0-20)

4 − +

Rate Of Breathing Problem (0-20)

11 − +

Predict

You Are Safe

Multiple Disease Prediction System

- Diabetes Prediction
- Heart Disease Prediction
- Parkinsons Prediction
- Covid-19 Prediction
- **General Disease Prediction**
- Predo-Bot

Welcome to *Predico* - The Smart Health Predictor

General Disease Prediction

Enter your symptoms so that we can get you a primary diagnosis:

weight_gain × anxiety × fatigue × lethargy ×

Evaluate

Prediction complete!

The diagnosis we have reached is:

Hypoglycemia

Please consult your nearest health administrator soon, take care!

Multiple Disease Prediction System

- Diabetes Prediction
- Heart Disease Prediction
- Parkinsons Prediction
- Covid-19 Prediction
- General Disease Prediction
- **Predo-Bot**

Welcome to *Predico* - The Smart Health Predictor

Predo is here for your Service

You:

medicines for Hypoglycemia

1. Glucose tablets 2. Glucagon injection 3. Dextrose gel 4. Corn syrup 5. Honey 6. Fruit juice 7. Regular soft drinks 8. Milk 9. High-fiber foods 10. Peanut butter

medicines for Hypoglycemia

I'm doing well, thank you. How about you?

Hello, How are You?

CONCLUSION

In this report, algorithms used to predict the disease based on symptoms/measures are discussed. Users provide the various measures and using algorithms the disease is predicted. The drugs that are commonly prescribed for a particular disease can also be suggested in this system with the help of *Predo* bot . The main aim is to predict the disease at the early stage and lead to early diagnosis. This system can also be used by doctors to avoid confusion while predicting the disease. This system can provide assistance to doctors.

REFERENCES

- irejournals-https://www.irejournals.com/formatedpaper/1702253.pdf
- https://www.javatpoint.com/
- Soni J, Ansari U, Sharma D & Soni S (2011). Predictive data mining for medical diagnosis: an overview of heart disease prediction. International Journal of Computer Applications, 17(8), 43-8

THANKS
FOR WATCHING