

DIAGNOSIS360

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Abstract

- **Diagnosis360 is an intelligent healthcare system that utilizes machine learning algorithms to predict the likelihood of a patient developing various diseases based on their medical history, lifestyle, and other relevant factors. The system takes in data from various sources such as electronic health records, medical databases, and patient self-reports to create a comprehensive profile of the patient. The system uses various machine learning models to predict the probability of a patient developing multiple diseases such as diabetes, Heart Disease, Breast Cancer**
- **disease, and more. These predictions are based on various features such as age, gender, family history, lifestyle factors such as smoking, alcohol consumption, exercise habits, and more.**

PROBLEM STATEMENT

- Traditional diagnostic methods can be time-consuming and may not always provide accurate results, leading to delays in treatment and potentially negative health outcomes for patients

The need for accurate and efficient diagnosis of multiple diseases in patients.

- with the growing prevalence of chronic diseases and complex medical conditions, healthcare professionals are faced with a growing burden of identifying and treating multiple diseases in patients. This can lead to increased workload and stress on healthcare systems, as well as a higher risk of misdiagnosis or missed diagnoses.

PROJECT OVERVIEW

Multiple disease prediction system [Diagnosis360] is a project that aims to predict various diseases based on the input symptoms of the patient. In this project, several machine learning algorithms have been implemented to predict the disease accurately. The algorithms used in this project include Decision Tree, SVM, Logistic Regression.

- 1) Decision Tree Algorithm for Symptom Checker**
- 2) Support Vector Machine for Diabetes and Parkinson's Disease Prediction**
- 3) Heart Disease Prediction from Logistic Regression**
- 4) Breast Cancer Prediction using Neural Network**

WHO ARE THE END USER?

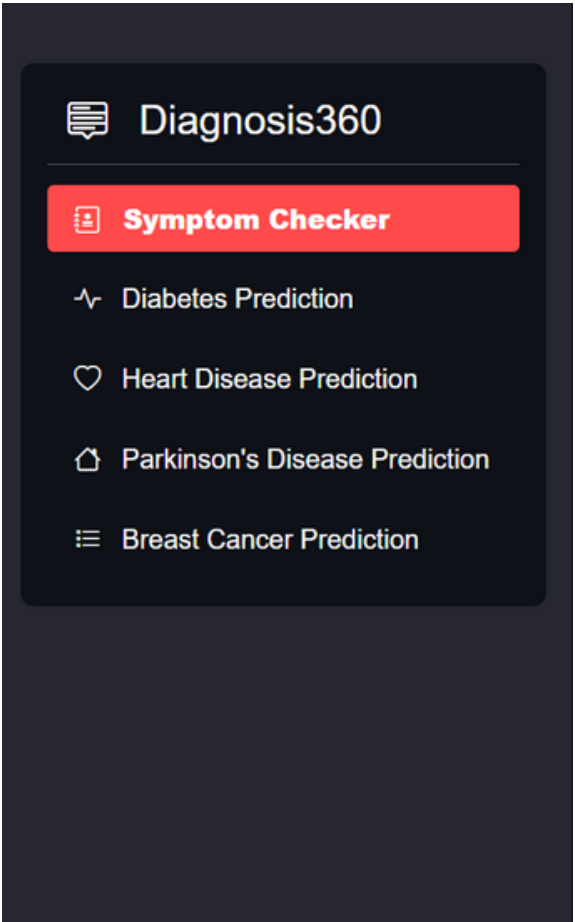
- **Patients can use this system to self-assess their health and receive recommendations for further medical evaluation or treatment.**
- **Healthcare providers such as doctors, nurses, and other medical professionals can use this system to help diagnose and treat patients.**
- **Researchers can use this system to analyze data and identify patterns or correlations between diseases and various risk factors.**

THE WOW FACTOR

- **Its ability to leverage advanced technology to improve the accuracy and efficiency of disease diagnosis and treatment, ultimately leading to better patient outcomes and a healthier population.**
Analyze large amounts of patient data and use advanced machine learning algorithms to accurately predict the likelihood of multiple diseases in a single patient.

USER INTERFACE

HOME PAGE:



SYMPTOM CHECKER:

Diagnosis360

Symptom Checker

Diabetes Prediction

Heart Disease Prediction

Parkinson's Disease Prediction

Breast Cancer Prediction

☐ abdominal_pain

☐ acute_liver_failure

☐ back_pain

☐ bladder_discomfort

☐ bloody_stool

☐ brittle_nails

☐ chest_pain

☐ coma

☐ continuous_feel_of_urine

☐ cramps

☐ depression

☐ distention_of_abdomen

☐ enlarged_thyroid

☐ family_history

☐ fluid_overload

☐ high_fever

☐ increased_appetite

☐ abnormal_menstruation

☐ altered_sensorium

☐ belly_pain

☐ blister

☐ blurred_and_distorted_vision

☐ bruising

☐ chills

☐ congestion

☐ continuous_sneezing

☐ dark_urine

☐ diarrhoea

☐ dizziness

☐ excessive_hunger

☐ fast_heart_rate

☐ foul_smell_of_urine

☐ hip_joint_pain

☐ acidity

☐ anxiety

☐ blackheads

☐ blood_in_sputum

☐ breathlessness

☐ burning_micturition

☐ cold_hands_and_feets

☐ constipation

☐ cough

☐ dehydration

☐ dischromic_patches

☐ drying_and_tingling_lips

☐ extra_marital_contacts

☐ fatigue

☐ headache

☐ history_of_alcohol_consumption

SYMPTOM CHECKER RESULT:

Diagnosis360

Symptom Checker

Diabetes Prediction

Heart Disease Prediction

Parkinson's Disease Prediction

Breast Cancer Prediction

☒ sinus_pressure

☐ slurred_speech

☐ spotting_urination

☒ stomach_pain

☐ swelled_lymph_nodes

☐ swollen_blood_vessels

☒ throat_irritation

☐ unsteadiness

☐ watering_from_eyes

☒ weight_gain

☐ yellow_urine

☐ itching

☐ shivering

☐ skin_peeling

☐ small_dents_in_nails

☐ stiff_neck

☒ sunken_eyes

☐ swelling_joints

☒ swollen_extremities

☒ toxic_look_typhos

☐ visual_disturbances

☐ weakness_in_limbs

☐ weight_loss

☒ yellowing_of_eyes

☐ rusty_sputum

☐ silver_like_dusting

☐ skin_rash

☒ spinning_movements

☒ stomach_bleeding

☐ sweating

☐ swelling_of_stomach

☐ swollen_legs

☐ ulcers_on_tongue

☐ vomiting

☐ weakness_of_one_body_side

☒ yellow_crust_ooze

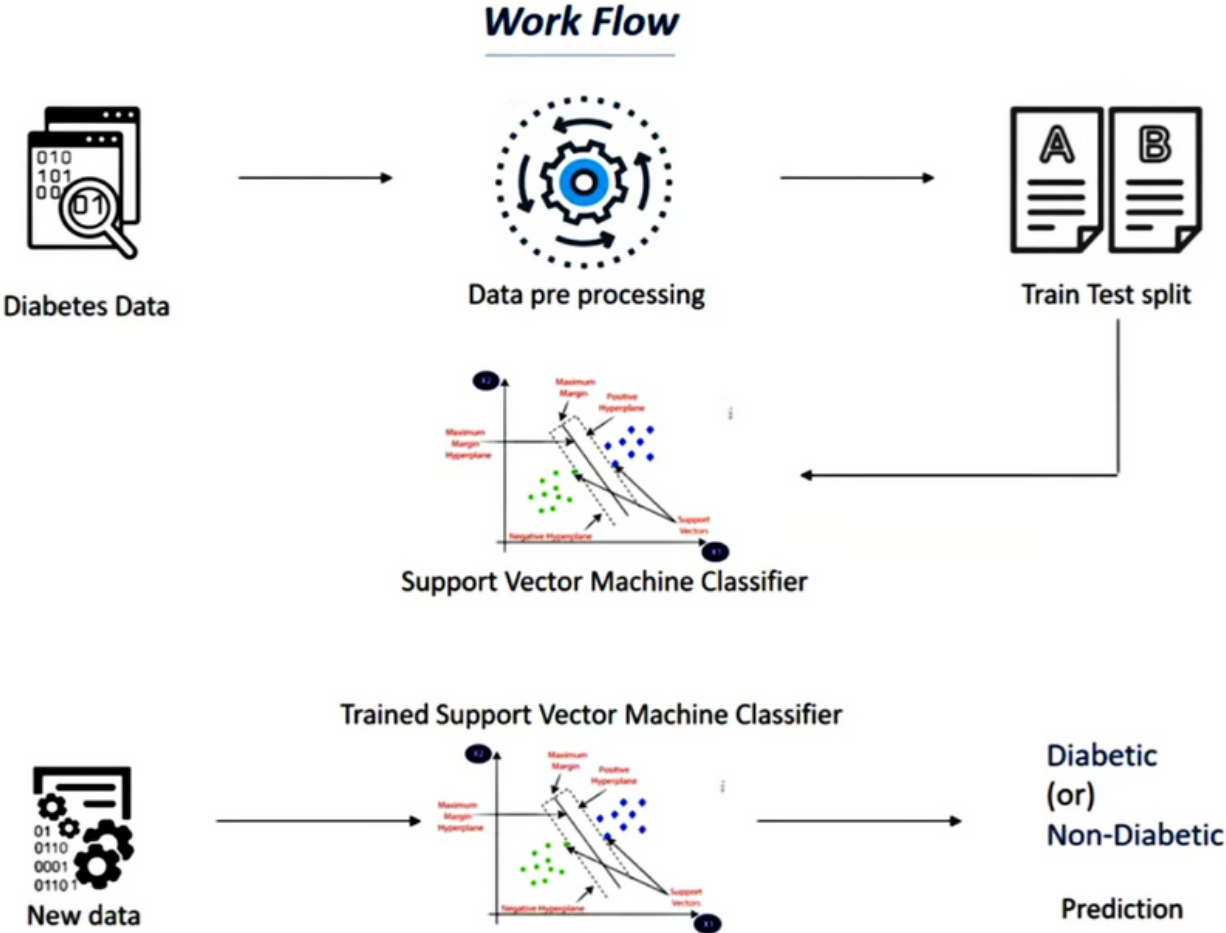
☒ yellowish_skin

Diagnose

You are diagnosed with : Hepatitis C

Please consult a doctor

BLOCK DIAGRAM FOR DIABETES PREDICTION



DIABETES PREDICTION:

×

Diagnosis360

Symptom Checker

Diabetes Prediction

Heart Disease Prediction

Parkinson's Disease Prediction

Breast Cancer Prediction

Diabetes Prediction using ML

Number of Pregnancies	Glucose Level	Blood Pressure value
1	200	130
Skin Thickness value	Insulin Level	BMI value
30.70	120	12
Diabetes Pedigree Function value	Age of the Person	
12	56	

Diabetes Test Result

The person is diabetic

HEART DISEASE PREDICTION:

Diagnosis360

Symptom Checker

Diabetes Prediction

Heart Disease Prediction

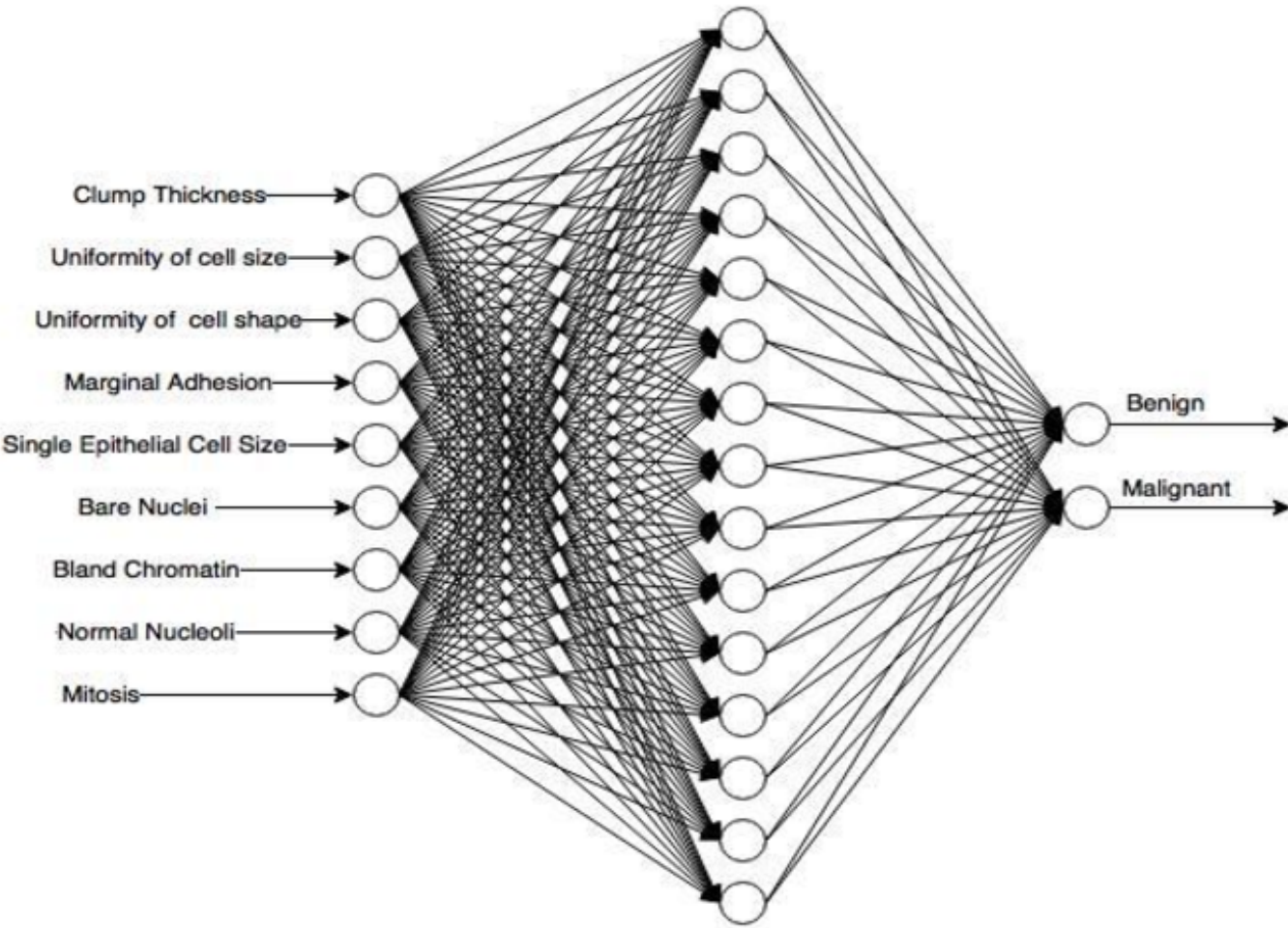
Parkinson's Disease Prediction

Breast Cancer Prediction

Heart Disease Prediction using ML

Age	Sex	Chest Pain types
<input type="text"/>	<input type="text"/>	<input type="text"/>
Resting Blood Pressure	Serum Cholestoral in mg/dl	Fasting Blood Sugar > 120 mg/dl
<input type="text"/>	<input type="text"/>	<input type="text"/>
Resting Electrocardiographic results	Maximum Heart Rate achieved	Exercise Induced Angina
<input type="text"/>	<input type="text"/>	<input type="text"/>
ST depression induced by exercise	Slope of the peak exercise ST segment	Major vessels colored by flourosopy
<input type="text"/>	<input type="text"/>	<input type="text"/>
thal: 0 = normal; 1 = fixed defect; 2 = reversable defect		
<input type="text"/>		
<div>Heart Disease Test Result</div> <div></div>		

BLOCK DIAGRAM FOR BREAST CANCER PREDICTION



BREAST CANCER PREDICTION:

Diagnosis360

Symptom Checker

Diabetes Prediction

Heart Disease Prediction

Parkinson's Disease Prediction

Breast Cancer Prediction

Breast Cancer Prediction using ML

mean radius	mean concavity	perimeter error
0 - +	0 - +	0 - +
mean texture	mean concave points	area error
0 - +	0 - +	0 - +
mean perimeter	mean symmetry	smoothness error
0 - +	0 - +	0 - +
mean area	mean fractal dimension	compactness error
0 - +	0 - +	0 - +
mean smoothness	radius error	concavity error
0 - +	0 - +	0 - +
mean compactness	texture error	concave points error
0 - +	0 - +	0 - +
symmetry error	worst smoothness	worst symmetry
0 - +	0 - +	0 - +

Conclusion

In this project, multiple machine learning algorithms were implemented to predict various diseases based on input symptoms. Decision Tree algorithm was used to diagnose diseases based on input symptoms. SVM was used to predict diabetes, breast cancer, and Parkinson's disease, and Logistic Regression was used to predict heart disease. The accuracy of each algorithm was dependent on the quality and size of the dataset used to train the model. Overall, this project has shown the potential of machine learning algorithms in predicting various diseases accurately.

MEET OUR TEAM



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