DIABETIC MELLITUS PREDICTION

DESCRIPTION:

Diabetes is a chronic disease or group of metabolic disease where a person suffers from an extended level of blood glucose in the body, which is either the insulin production is inadequate, or because the body's cells do not respond properly to insulin. The constant hyperglycemia of diabetes is related to long-haul harm, brokenness, and failure of various organs, particularly the eyes, kidneys, nerves, heart, and veins. The objective of this research is to make use of significant features, design a prediction algorithm using Machine learning and find the optimal classifier to give the closest result comparing to clinical outcomes. The proposed method aims to focus on selecting the attributes that ail in early detection of Diabetes Miletus using Predictive analysis.

PURPOSE:

The main purpose of the project integrated with the machine learning model is to provide future insights to the doctor to early predict the patient may or may not be suffering from diabetes. Due to it a doctor can even carry out study and research work to know to how diabetes develops or what are the specifies that lead into the diabetes. It can make the studies more concrete.

EXISTING PROBLEM:

There are various processes in order to detect the diabetes blood test,urine test,saliva test etc. In different tests have a different problem like invasive, infection risk from bruised skin in blood test. low accuracy in urine test. low concentration level, insignificant result in saliva test etc. so we have different test is available for testing of diabetes but in allmost of the tests have some problem.

PROPOSED SOLUTION:

Taking into the account the various parameters involved and changed developed in the lump area a machine learning model is developed that help to predict the particular person suffer from diabetes or not as early as possible. The machine learning model is based on the previous records of patients which availabe on hospitals machine model takes into consideration various parameters like pregnency, blood pressure, BMI, age, insulin, skin thickness, glucose,diabetespredigree function and thereby predicts the patients may be suffer from diabetes in the format of 0 and 1. The earlyaware interface is the place where you get the predictions.
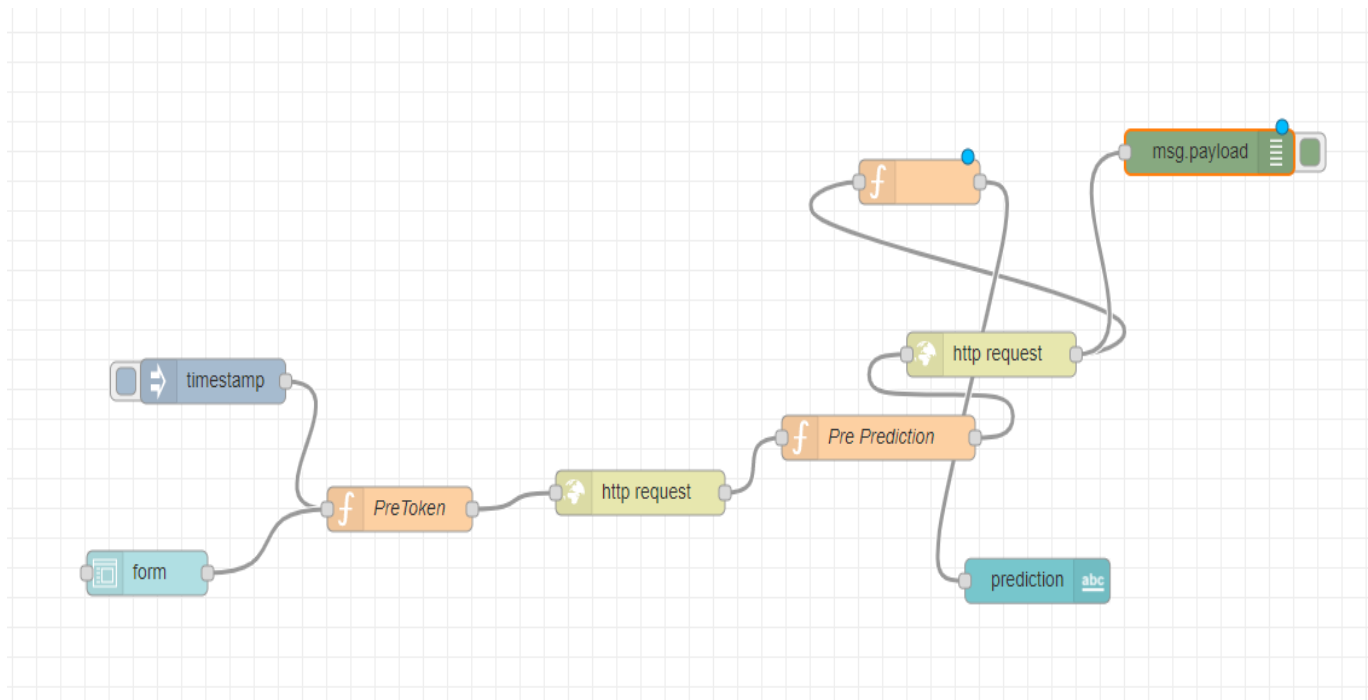
BLOCK DIAGRAM:

Dataset → Preprocess Data → Auto AI → comparative analysis on accuracy → Result
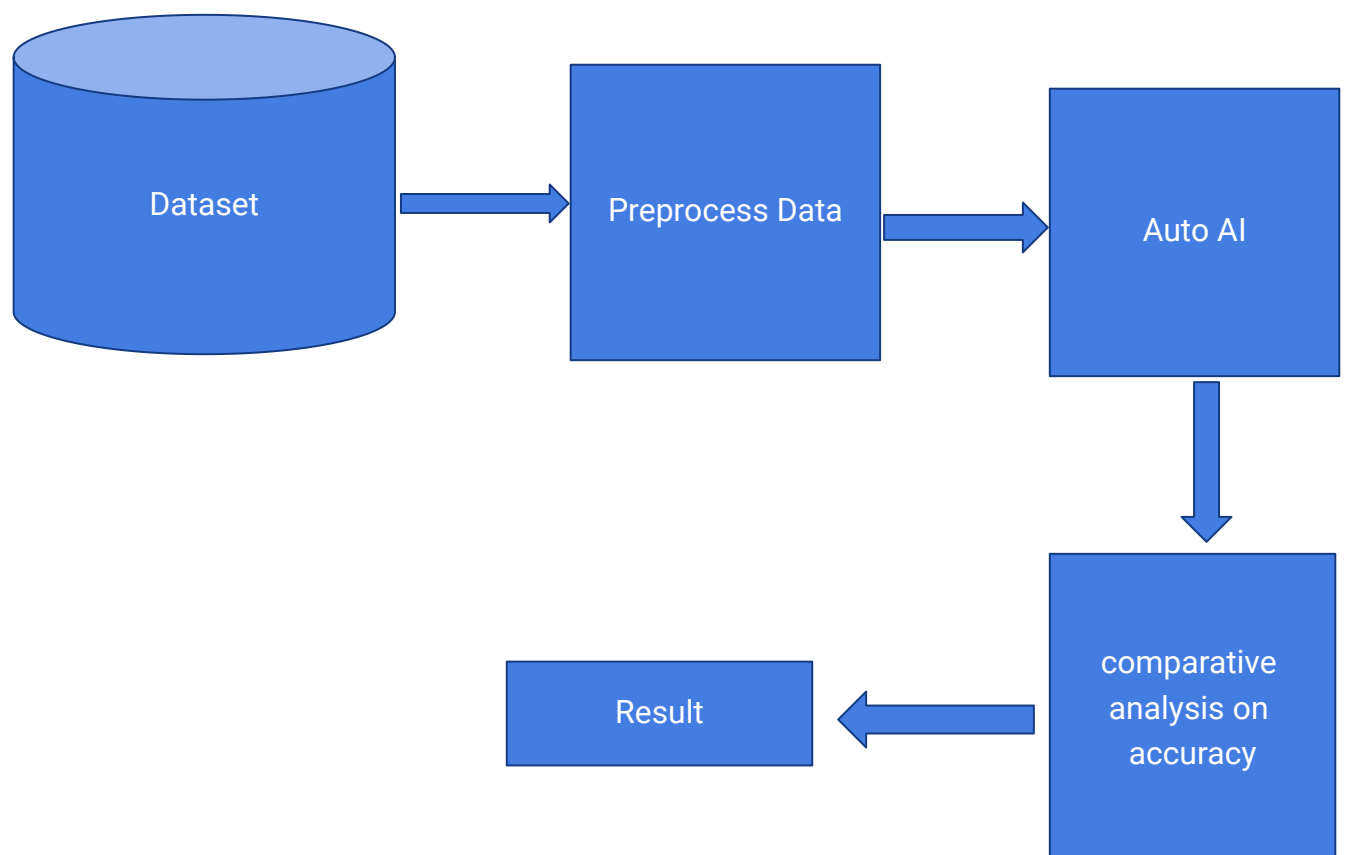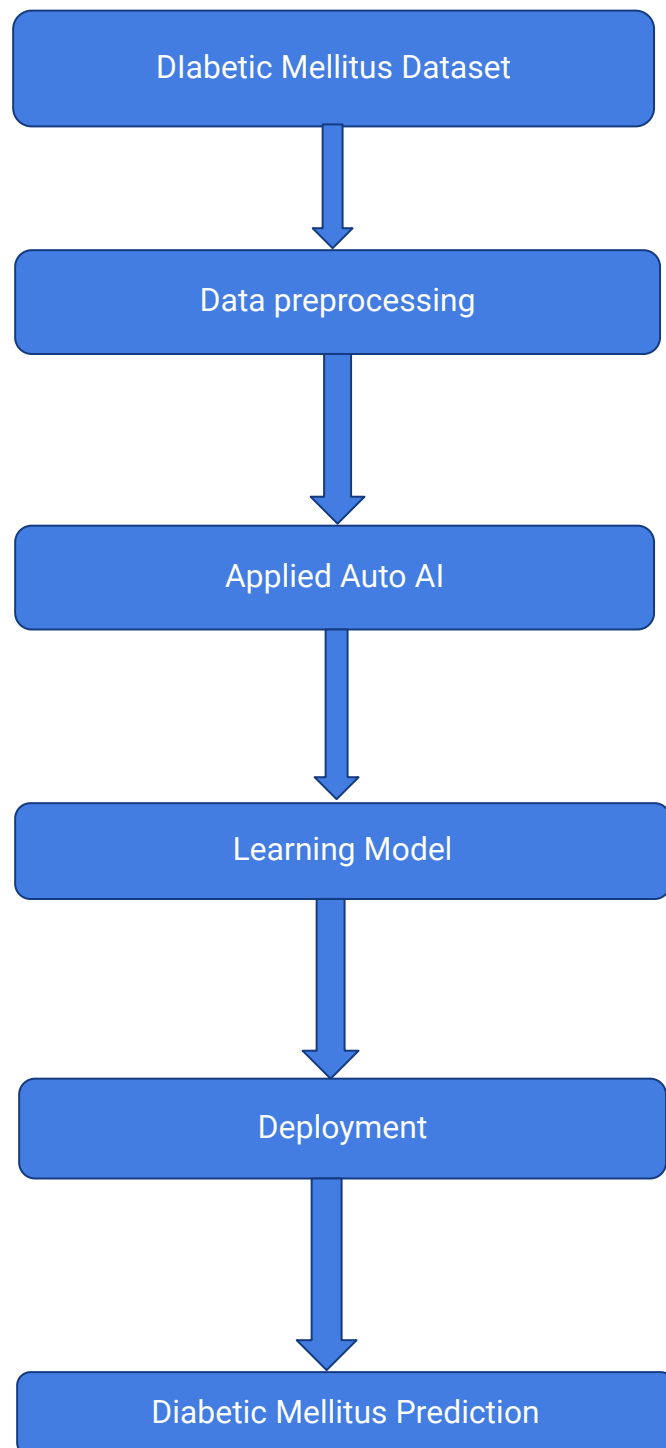
SOFTWARE DESIGNING:

Software was designed by the help of IBM cloud. It give the service of Nodered application then by the help of Nodered designed the software. created the form for independent variable then generate pretoken after the generating token create the node for http request then create pre prediction function for inputs and connect with post request of http request and connect this node with output.

NODE CONNECTIONS

FLOWCHART:

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│     DIabetic Mellitus Dataset    │
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┌─────────────────────────────────┐
│        Data preprocessing        │
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┌─────────────────────────────────┐
│          Applied Auto AI         │
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┌─────────────────────────────────┐
│          Learning Model          │
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┌─────────────────────────────────┐
│            Deployment            │
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┌─────────────────────────────────┐
│    Diabetic Mellitus Prediction  │
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RESULT:

The model is builted and also deployed successfully with the help of Auto AI and Nodered with accuracy 79.54%. This model will help to doctor as well as patient to predict or check the patient may or may not be suffered from Diabetes.

ADVANTAGES:

The main advantage of the entire process of machine learning is that it does not need any gigantic enviroment. A well trained model can fulfill all the requirements and even it can produce accurate results. It can further help doctors to understand the patterns in diabetes patients and thereby come up with some threshold parameters. It can help doctors to detect diabetes in early.

DISADVANTAGES:

At the present stage the only disadvantage associated with the machine learning model is that it does not give the extreme exact accuracy but however with the bigger datasets the entire accuracy can be marginally increased.

APPLICATION:

1. The major application of entire model is that it help to predict the diabetes diesease of the patients.
2. It can help to medicals to gain insights to understand the pattern of diabetes and come forward to greater solution.
3. The social stigma associated with it can be weakend and people can be made moreoptimistic about the disease.

CONCLUSION:

The ability of this model to predict patients with Diabetes using some commonly used lab results is high with satisfactory sensitivity. These models can be built into an online computer program to help physicians in predicting patients with future occurrence of diabetes and providing necessary preventive interventions. Pregnency, glucose, blood pressure, skin thickness, insulin, body mass index, diabetespedigree function and age the most important predictors in these model.

FUTURE SCOPE:

The machine learning model can thus predict the diabetes disease and futher prove to be a milestone in diabetes work, research and cure. It can provide newer insights to the medical fraternity to bring down the number of deaths due to breast diabetes in collaboration with the machine learning model. In future the accuracy can be increased marginally by training the model with huge dataset.

BIBILOGRAPHY:

1. https://www.kaggle.com/
2. https://journalofbigdata.springeropen.com/
3. https://www.frontiersin.org/
4 https://www.sciencedirect.com/

USER INTERFACE LAYOUT:

1. for prediction 1:

2. for prediction 0:

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