Project Design Phase-I
Solution Architecture

Date	11 November 2023
Team ID	PNT2022TMID592372
Project Name	Diabetes Prediction Using Machine Learning
Maximum Marks	5 Marks

Solution Architecture:

A methodical approach to utilizing data and algorithms to create a predictive model that can help with diabetes diagnosis or prediction is part of the machine learning solution architecture for diabetes.

It predicts the diabetes utilizing AI by continuous information. It offers customized diabetes appraisals by considering both wellbeing information and way of life decisions, we offer customized diabetes evaluations that consider factors, for example, age, orientation, family ancestry, weight record, circulatory strain, glucose levels, actual work, and dietary propensities. By utilizing ongoing information, our product can create exact expectations, engaging people, and medical services suppliers to go to proactive lengths in overseeing diabetes gambles. This advanced arrangement intends to reform medical services by advancing opportune clinical consideration, decreasing medical services costs, and improving by and large general wellbeing. Through consistent combination with existing wellbeing observing frameworks, our product guarantees an issue free and proficient experience. Patients can safely enter their wellbeing information, including glucose levels, drug records, and customary activity designs. Our AI calculations then dissect this information to give customized risk appraisals, empowering people to settle on informed conclusions about their wellbeing. The positive effect of our product reaches out past people to the more extensive society. By empowering early location of diabetes, we can forestall intricacies related with the infection, like cardiovascular illnesses

and kidney issues. This, thus, decreases the weight on medical care frameworks and brings down long haul medical care costs.

1) Data Collection

2) Data Pre-processing

- Import Libraries.
- Import dataset.
- Analysis data
- Taking care of missing Values
- Variation analysis
- Encoding Categorical Data.
- Data Visualization.
- Splitting Data into Train and Test
- Feature Scaling.

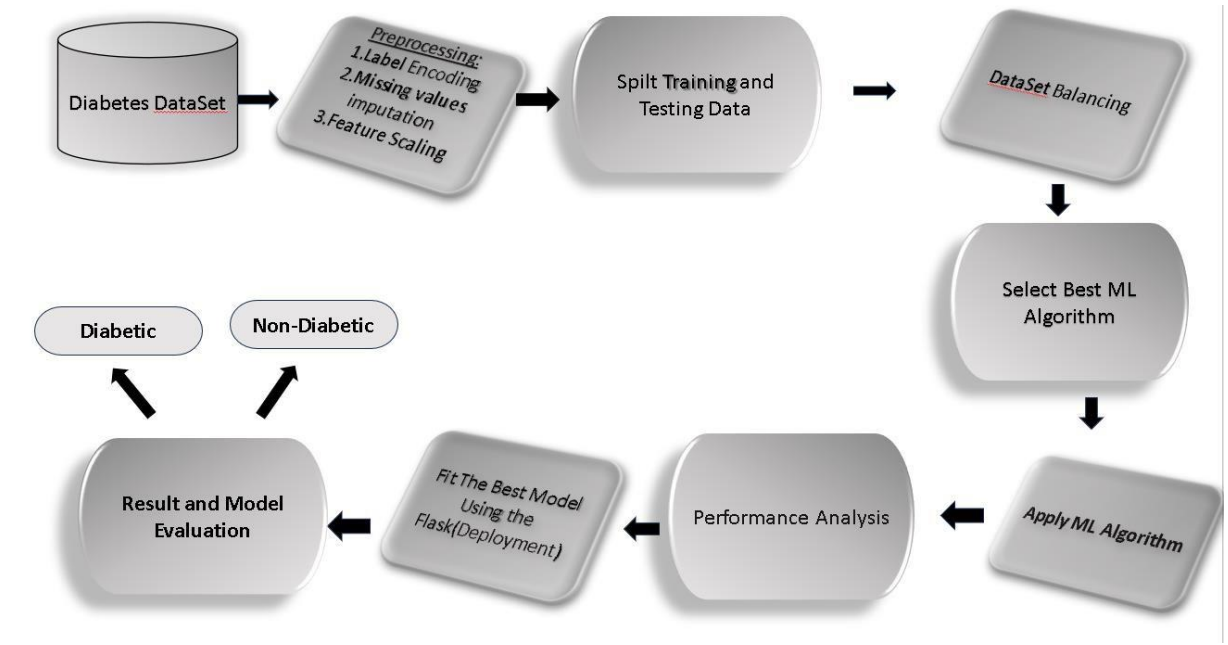
3)Model Building:

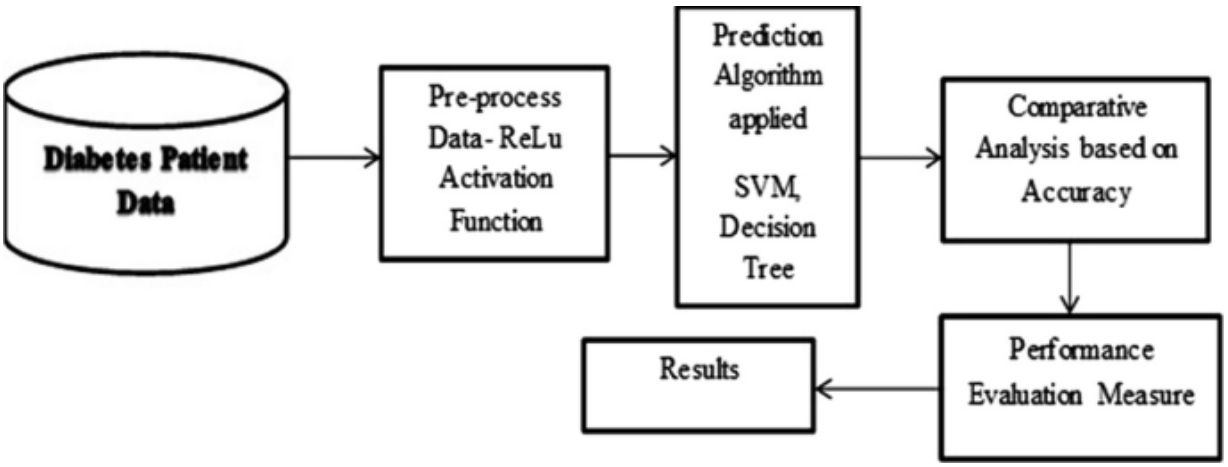
- Initialising the model
- Creating object of the model
- Training the model
- Model evalution (using appropriate evaluation metrics)

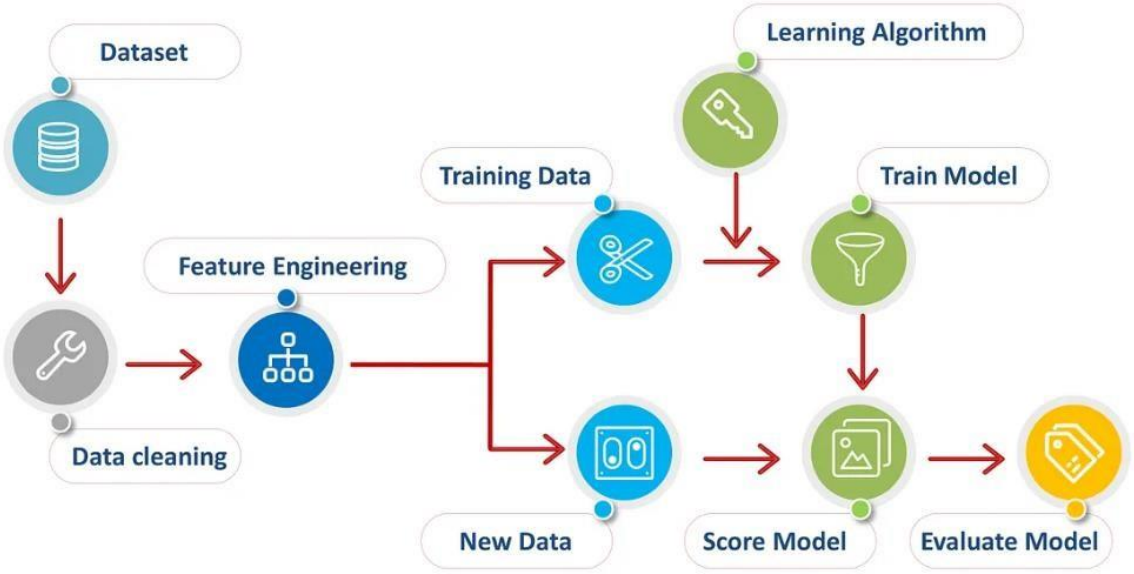
4)Application Creation:.

- Create an HTML file
- Build a Python Code
- Create a pickle file
- Build css code
- Run the app in local browser
- Show the prediction

Example - Solution Architecture Diagram:






Dataset
Learning Algorithm
Training Data
Train Model
Feature Engineering
Data cleaning
New Data
Score Model
Evaluate Model