



Google Developer Group  
On Campus

# *Beyond The Hype 2.0 Hackathon Project*

*Healthcare*

*Pima Indian Diabetes Dataset Predictor*

# TechSprint



Leveraging the power of AI



## Team Details

- a. Team name: Bharat Innovators
- b. Team Member name: Chaitanya Mangla (Individual participant)
- c. Problem Statement: Open Innovation (Health Care)

## HealthCare

Health care is one of the biggest issues in the whole world and especially, on the top of that the issue of Diabetes is the most prevalent and that too in India.

As we all know that Prevention is better than Cure. So, if any person comes to know about the probability of having diabetes before hand, then he can take precautions and prevent from the Diabetes to get worsen.

So, I, the member of Bharat Innovators, have built a Pima Indian Diabetes Dataset predictor based on Random Forest Classifier Machine Learning Algorithm which works on the concept of decision trees.

This project of mine is different from any other projects as its based on healthcare which is the most important thing in the world as its well said that ‘Health is Wealth’.

It can solve the problem as it can tell a person whether he or she is having the probability of being diabetic or not. So, accordingly he can take precaution.

If we go on the google, then we don't see too much predictors and a little bit of them are there and they also charge for money. But this is free of cost with 82% accuracy.

**The features offered in the solution include :**

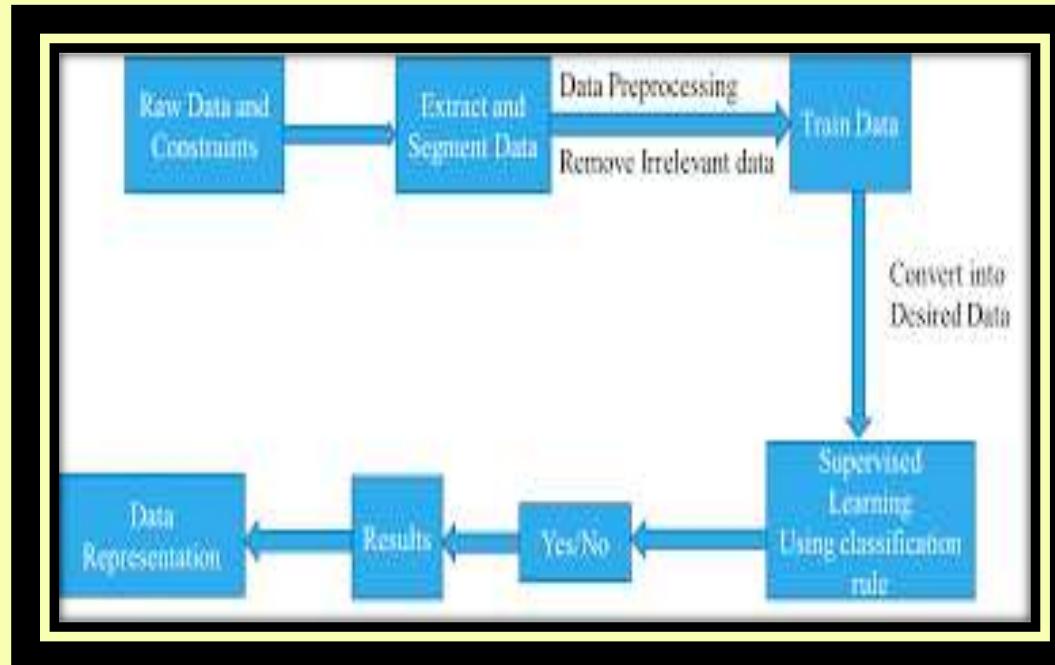
- 1. Diabetes Predictor (Predicts presence or absence of diabetes )**
- 2. Diabetes Probability Predictor ( Predicts the probability of diabetes)**

There are predictions made on 8 features : Pregnancies(Females), Glucose, Blood Pressure, Skin Thickness, Insulin, BMI, Diabetes Pedigree Function and Age.

**The Google Technologies mainly used include :**

- 1. Stream lit Cloud Community built on Google Cloud Platform**
- 2. Kaggle for importing the dataset of Pima Indian Diabetes**
- 3. Used Google search and chat GPT for gaining knowledge about the codes and ML models.**
- 4. Also tried using the Google collab for coding.**

## Process flow diagram or Use-case diagram





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## UI Screenshots

The screenshot shows a web-based application for predicting diabetes based on the Pima Indians Diabetes Dataset. On the left, there is a sidebar titled "Enter Patient Details" containing input fields for age, sex, blood pressure, skin thickness, insulin levels, BMI, and diabetes pedigree function. The main area features a title "Pima Indians Diabetes Dataset Prediction" with a subtitle "Predict whether a person has diabetes using a machine learning classifier". Below this is a green button labeled "Predict" which has been clicked, showing the result "40 years old (Insulin: 0.144)" with a success icon. A note below states "about accuracy: 0.81". In the bottom right corner, there is a link "View Data".

The figure shows a Jupyter Notebook interface with a title 'Pima Indians Diabetes Dataset' and a subtitle 'Prediction'. The main content displays a scatter plot with 'Age' on the x-axis and 'Pregnancies' on the y-axis. A green horizontal bar highlights the first data point, which corresponds to the first row of the dataset:

Pregnancies	Glucose	BloodPressure	SkinThickness	Insulin	BMI	DiabetesPedigreeFunction	Age	Outcome
0	140	0	0	0	0.35	0.40	31	0

The figure shows a Jupyter Notebook interface. On the left, there is a sidebar with several dropdown menus for selecting data and models. The main area displays a Python code cell with the following content:

```
# Importing required libraries
import numpy as np
import tensorflow as tf
from tensorflow import keras
from tensorflow.keras import layers
from tensorflow.keras import regularizers
```

Below the code cell, there is a red box highlighting the output of the cell, which shows the following message:

Model loaded from disk.

Provide links to your:

GitHub Public Repository : [Github Link](#)

Demo Video Link (3 Minutes) : [Video Link](#)

MVP Link : [Streamlit Link](#)



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# Thank you!

