

SUBMITTED BY-

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AIML ASSIGNMENT-2

Develop a Flask-based UI to use the ML/DL model developed in the Assignment – 1. Upload your all the resources on GitHub.

Overview

This Flask application is a web-based platform designed to predict whether a person is diabetic based on input data. It uses a pre-trained machine learning model for predictions, which is loaded and invoked in the backend via a function called `preprocess_and_predict`.

Key Features

1. **Interactive Web Form:**
 - The app displays a webpage where users can enter health-related details like glucose levels, BMI, and age.
 2. **Machine Learning Prediction:**
 - The app uses a machine learning model to analyze the provided data and predict whether the person is diabetic.
 3. **Results Display:**
 - After prediction, the result ("Diabetic" or "Non-Diabetic") is shown on the same webpage.
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How It Works

1. **User Interaction:**
 - The user visits the webpage and fills out a form with their health information, such as blood pressure, insulin levels, and glucose readings.

Blood Pressure (0-122):

120

Skin Thickness (0-99):

29

Insulin (0-846):

80

BMI (0-67):

28

Diabetes Pedigree Function (0.078-2.42):

0.45

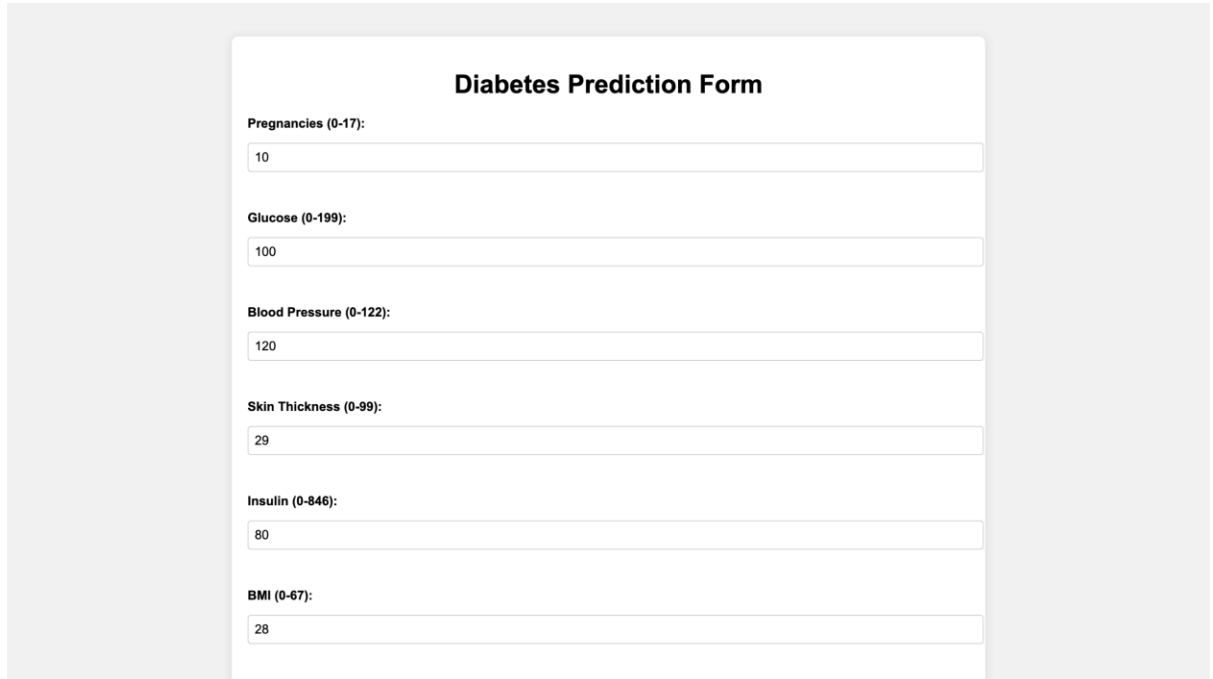
Age (21-81):

45

Submit

2. Data Submission:

- Once the form is submitted, the data is sent to the app for processing.



Diabetes Prediction Form

Pregnancies (0-17):

Glucose (0-199):

Blood Pressure (0-122):

Skin Thickness (0-99):

Insulin (0-846):

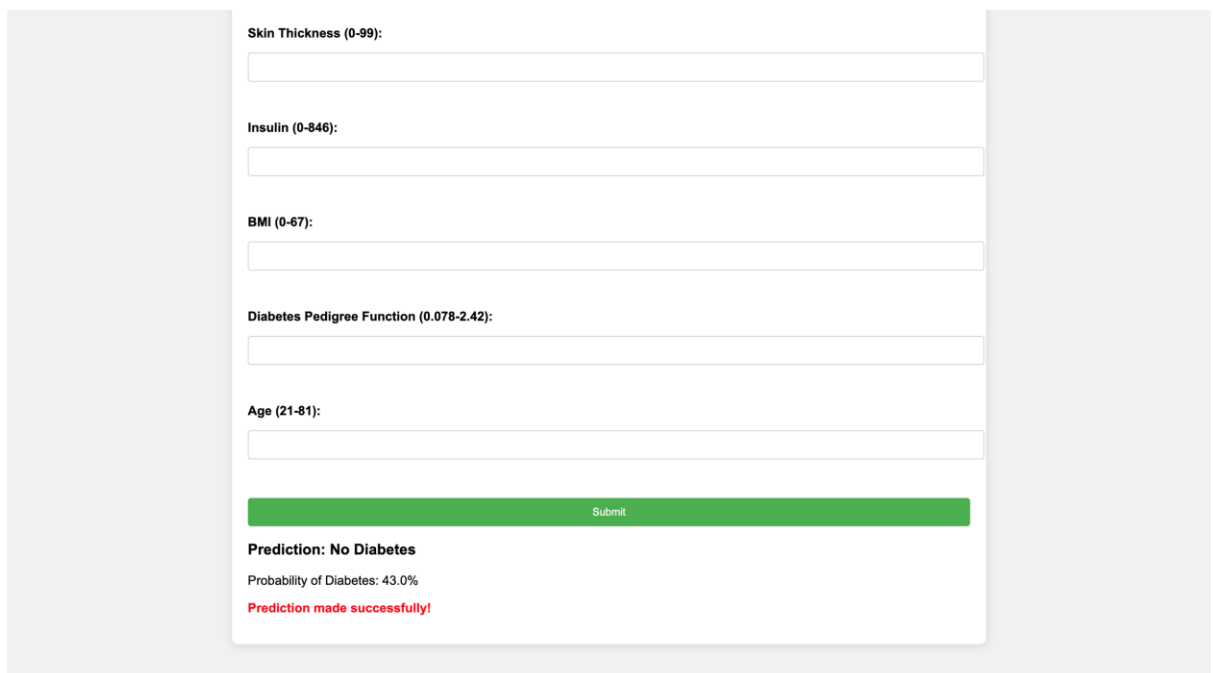
BMI (0-67):

3. Processing and Prediction:

- The app preprocesses the input data and uses a pre-trained model to make a prediction.

4. Result Display:

- The app sends the prediction back to the webpage, displaying whether the user is "Diabetic" or "Non-Diabetic."



Skin Thickness (0-99):

Insulin (0-846):

BMI (0-67):

Diabetes Pedigree Function (0.078-2.42):

Age (21-81):

Prediction: No Diabetes
Probability of Diabetes: 43.0%
Prediction made successfully!

Components of the App

1. **Backend (Flask App):**
 - Handles user requests and predictions.
 - Processes the input data and communicates with the machine learning model.
2. **Prediction Model:**
 - A pre-trained machine learning model is used to make predictions based on the user's input.
3. **Frontend (Webpage):**
 - A simple HTML form collects data from the user.
 - The prediction result is displayed dynamically on the same page after submission.