

# Diabetes Risk Predictor

## — User Guide

### 1. Introduction

This tool predicts the risk of diabetes based on key health indicators using a decision tree model trained on the Pima Indians dataset.

### 2. How to Run

#### Open MATLAB

Make sure the files `diabetesPredictorApp.m` and `predictDiabetes.m` are in the same folder

Run the command: `diabetesPredictorApp`

The app window will appear.

### 3. Input

Enter the following values into the app's input fields:

Input	Description	Units	Typical Range
Glucose	Blood glucose level	mg/dL	70 – 180
BMI	Body Mass Index	kg/m <sup>2</sup>	15 – 40
Age	Age of the person	Years	20 – 80
Diabetes Pedigree Function	Family history/genetic risk factor	Unitless (0–2)	0 – 2
Pregnancies	Number of times pregnant	Count	0 – 15
Blood Pressure	Diastolic blood pressure	mm Hg	50 – 100

## 4. Output

After entering all values, click **Predict**

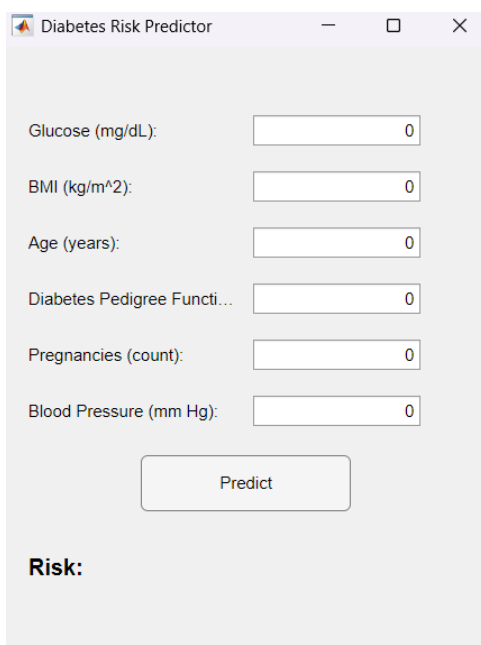
The app will display: **Risk : High** (red text) or **Risk: Low** (green text)

## 5. Model Background

The model is a decision tree trained using the J48 algorithm in WEKA on the Pima Indians dataset, a commonly used diabetes dataset.

## 6. Screenshots

**Main App Window (Full view)**



Diabetes Risk Predictor

Glucose (mg/dL):

BMI (kg/m<sup>2</sup>):

Age (years):

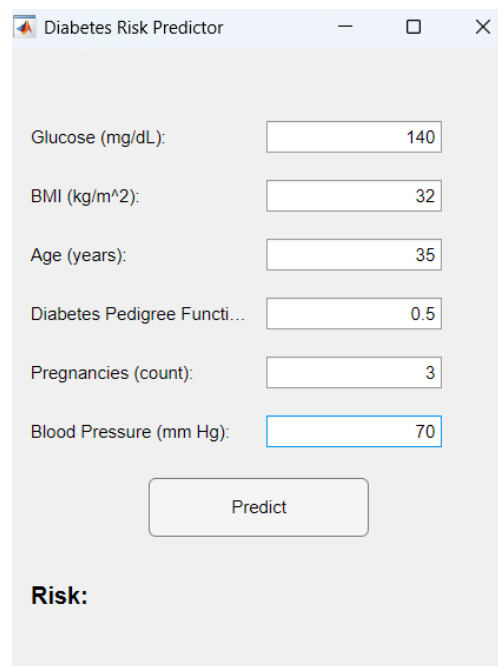
Diabetes Pedigree Functi...

Pregnancies (count):

Blood Pressure (mm Hg):

**Risk:**

**Filled Inputs Before Prediction**



Diabetes Risk Predictor

Glucose (mg/dL):

BMI (kg/m<sup>2</sup>):

Age (years):

Diabetes Pedigree Functi...

Pregnancies (count):

Blood Pressure (mm Hg):

**Risk:**

## Result Displayed

Diabetes Risk Predictor

Glucose (mg/dL):

140

BMI (kg/m<sup>2</sup>):

32

Age (years):

35

Diabetes Pedigree Functi...

0.5

Pregnancies (count):

3

Blood Pressure (mm Hg):

70

Predict

**Risk: High**

Diabetes Risk Predictor

Glucose (mg/dL):

110

BMI (kg/m<sup>2</sup>):

25

Age (years):

25

Diabetes Pedigree Functi...

0.3

Pregnancies (count):

1

Blood Pressure (mm Hg):

80

Predict

**Risk: Low**