Diabetes Prediction Report

Report ID: 860fc69e

Date: 2025-06-07 11:15:29

Patient Health Parameters:

Pregnancies: 2

Glucose: 130

BloodPressure: 70

SkinThickness: 25

Insulin: 100

BMI: 28.5

DiabetesPedigreeFunction: 0.6

Age: 35

Prediction: Diabetic

Probability: 0.52

Risk Level: Moderate Risk

Interpretation: You have a moderate risk of diabetes; consider lifestyle changes.

Health Recommendations:

- Consider weight management and regular exercise.

- Monitor your blood sugar levels regularly.

- Maintain a healthy diet rich in fiber and low in sugar.

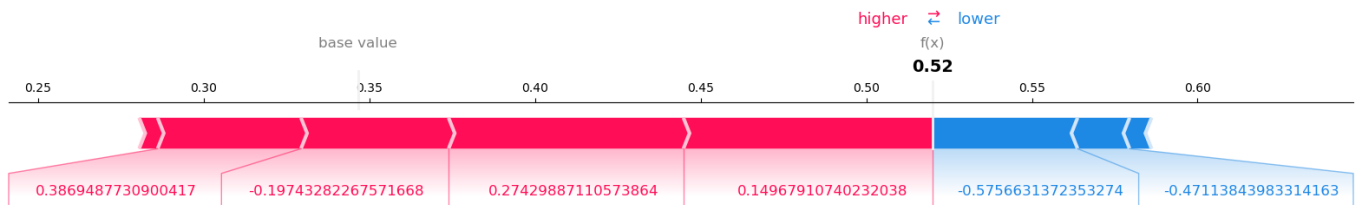**Model Performance Metrics:**

Accuracy: 0.85

Precision: 0.82

Recall: 0.79

ROC-AUC: 0.88

Patient Specific Explanation (SHAP Force Plot):

Diabetes Prediction Report

higher ⇄ lower

base value

f(x)

0.52

0.25　　　0.30　　　0.35　　　0.40　　　0.45　　　0.50　　　0.55　　　0.60

| 0.3869487730900417 | -0.19743282267571668 | 0.27429887110573864 | 0.14967910740232038 | -0.5756631372353274 | -0.47113843983314163 |

SHAP Interpretation (What It Indicates):

SHAP (SHapley Additive exPlanations) values help explain how each health parameter influenced the model's prediction for this patient.

A positive SHAP value means the feature pushed the prediction towards 'Diabetic'.
A negative SHAP value means the feature pushed the prediction towards 'Non-Diabetic'.

- In the force plot, each colored bar represents a feature's contribution:
  1. Red: pushed the risk **higher** (towards diabetic)
  2. Blue: pushed the risk **lower** (towards non-diabetic)
- The size of each bar shows the strength of its impact.

This allows patients and doctors to see which specific health values (like glucose, BMI, insulin) were most responsible for the prediction.