

ML Assignment 2

Diabetic Prediction Model using Logistic Regression



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# Problem Definition

Diabetes mellitus is a collection of disorders that impact your body's ability to use blood sugar (glucose). Because glucose is a significant source of energy for the cells that make up your muscles and tissues, it is essential to your health. It's also the primary source of energy for your brain. The underlying cause of diabetes differs depending on the kind. However, regardless of the type of diabetes you have, it can cause an excess of sugar in your blood. Blood sugar levels that are too high can cause major health concerns [1].

In this mini project, we will be predicting whether an individual is a diabetic patient or not based on their Glucose level, Blood pressure, BMI and Age. As the machine learning model, we will be using a supervised machine learning algorithm known as logistic regression model.

This statistical model (also known as the logit model) is frequently used in classification and predictive analytics. Based on a collection of independent variables, logistic regression calculates the likelihood of an event occurring, such as in this case, has diabetic or not. The dependent variable is confined between 0 and 1 because the outcome is a probability. A logit transformation is performed to the odds in logistic regression, which is the probability of success divided by the probability of failure. This logistic function is represented by the following formulas, which are also known as log odds or the natural logarithm of odds [2].

There are three types of logistic regression models.

1. Binary Logistic Regression

2. Multinomial Logistic Regression

3. Ordinal Logistic Regression

# Dataset Description

# Methodology

# Results and Discussion

# Individual Contribution

# References

# Appendix