



PROJECT REPORT
DIABETES PREDICTION USING SUPPORT VECTOR
MACHINE AND GRADIENT DESCENT ALGORITHM

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ABSTRACT (DIABETES PREDICTION USING SUPPORT VECTOR MACHINE AND GRADIENT DESCENT ALGORITHM)

Diabetes is a health problem that can be deadly if not treated early. An early prediction of diabetes can prevent so many health problems in someone's life. Using machine learning and algorithm to predict whether a person has diabetes or not can be the best solution when it comes to diabetes problems. Support Vector Machine can classify a data point into positive or negative value, it can help with predicting whether a person has diabetes or not using the diabetes factor that a person has. Using this factor Support Vector Machine can give value to the data point of a person and decided in which side of the margin it lies to, positive or negative value. The dataset itself contains 2000 patients with diabetes factor such as Pregnancies, Glucose, BloodPressure, SkinThickness, Insulin, BMI, Diabetes, and Age with Outcome as the predictor. The final results shown that Support Vector Machine is a good approach when it comes to predicting patients with diabetes. It shown a high accuracy score of >70% in accuracy, which means the Support Vector Machine model will most likely predict 7 out of 10 patients to be correct when it comes to Diabetes Disease.

Keyword: Diabetes, SVM, Machine_Learning

