

# Predictive Modelling for Diabetes and Insulin Dosage Using Machine Learning

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**Abstract:** *Now a days diabetes has become a chronic disease and managing this requires strict regular diet and workout to avoid various health issues and high blood glucose levels. To keep blood glucose at normal level in human body, diabetic patients have to be suggested with proper insulin dosage. It becomes difficult to predict the right amount of insulin to diabetes patients. To do this, Machine Learning(ML) method is used for identifying whether a person is suffering from diabetic and if he/she is suffering, right amount of insulin should be suggested to that patient. k-nearest neighbors(KNN) technique is employed to predict whether a patient is diabetic or not and Random Forest Regression technique is utilized for suggesting appropriate quantity of insulin dosage for the diabetic patient. Results are generated using the above-mentioned techniques.*

**Keywords:** Diabetes prediction, Insulin dosage, k-nearest neighbors (KNN), Random Forest Regression, Pima Indian Diabetes Dataset, Machine Learning