

**GOVERNMENT COLLEGE OF ENGINEERING BARGUR**

**( AUTONOMOUS)**

**PROJECT TITLE: DIABETES PREDICTION**

**TEAM MEMBERS:**

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**PROBLEM STATEMENT:**

It affects the organs of the human body. It can be controlled by predicting this disease earlier. If diabetics patient is untreated for a long time, it may lead to increase blood sugar.

**PROBLEM SOLUTION :**

* **The algorithms like K nearest neighbour, Logistic Regression, Random forest, Support vector machine and Decision tree are used. The accuracy of the model using each of the algorithms is calculated. Then the one with a good accuracy is taken as the model for predicting the diabetes.**
* **Diabetes is a disease that is caused due to excessive amount of blood sugar in it. Our body needs energy, and glucose is one of the main sources of energy to build the muscles and tissues of the body. Generally, unhealthy lifestyle and lack of exercise are the main causes of type 2 diabetes in people. The presence of a large amount of sugar in the blood causes diabetes. Sometimes, the pancreas is unable to convert the food into insulin; thus, sugar remains unabsorbed, which causes diabetes. Diabetes can affect kidney, eyes, nervous system,blood vessels and so on.**
* **Diabetes is of three types.**
* **First is juvenile diabetes which occurs mostly in children and destroys the cells which produce insulin in the pancreas.**
* **Type 2 diabetes is also known as insulin-independent diabetes since patients are not injected with insulin after a gap of regular intervals, but in the case of type 1 diabetes, insulin is injected at a regular interval of time to the patient, so this is also known as insulin-dependent diabetes.**
* **The third type of diabetes [3] is gestations, which occurs during pregnancy due to the change of hormones, and this generally disappears after the delivery. There is one more condition, that is, prediabetes, in which the intake levels of sugar are on the borderline, and this condition can be reversed with the help of regular exercise and healthy lifestyle. In this paper, we have tried to predict diabetes using machine learning. Machine learning is a branch of artificial intelligence in which the machine tries to predict the outcome based on certain data and previous outcomes. Machine learning is of two types. First is supervised learning, in which data act as a teacher and the model is built around the dataset. Second is unsupervised learning, in which data trains itself by finding certain patterns in the dataset and labeling them. In recent years, many authors have published and presented their work on diabetes prediction by using machine learning algorithms.**
* **The objectives of our study are as follows:**

**1.To enrich ourselves with the various diabetic prediction models.**

**2.To evaluate and discuss the existing models based on classification accuracy.**

**3.To discuss the various attributes required for the prediction of diabetes.**

**4.To identify the research gaps in the existing literature.**

**5.To present a comparative study of various diabetic prediction models**

**6.To collect more and more information about the prediction of diabetes in the primitive stage.**