**INTRODUCTION**

In this day and age, one of the most notorious diseases to have taken the world by storm is Diabetes, which is a disease which causes an increase in blood glucose levels as a result of the absence or low levels of insulin. Due to the many criterion to be taken into consideration for an individual to harbour this disease, it’s detection and prediction might be tedious or sometimes inconclusive. Nevertheless, it isn’t impossible to detect it, even at an early stage. Federation- IDF). 79% of the adult population were living in the countries with the low and middle-income groups. It is estimated that by the year 2045 approx. 700 million people will have diabetes (IDF).

Diabetes is increasing day by day in the world because of environmental, genetic factors. The numbers are rising rapidly due to several factors which includes unhealthy foods, physical inactivity and many more. Diabetes is a hormonal disorder in which the inability of the body to produce insulin causes the metabolism of sugar in the body to be abnormal, thereby, raising the blood glucose levels in the body of a particular individual. Intense hunger, thirst and frequent urination are some of the observable characteristics. Certain risk factors such as age, BMI, Glucose Levels, Blood Pressure, etc., play an important role to the contribution of the disease.

In the Fig. 1 we can see that the number of cases is rising every year and there is not slowing down in the active cases. It is a very crucial thing to worry as diabetes has become one of the most dangerous and fastest diseases to take the lives of many individuals around the globe.

Machine Learning is very popular these days as it is used everywhere, where a large amount of data is present, and we need some knowledge from it. Generally, we can categorise the Machine Learning algorithms in two types but not limited to-

*•* Unsupervised Learning: In unsupervised learning, the information is not labelled and also not trained. Here, we just put the data in action to find some patterns if possible.

*•* Supervised Learning: In supervised learning, we train the model based on the labels attached to the information and based on that we classify or test the new data with labels.

With the rise of Machine Learning and its relative algorithms, it has come to light that the significant problems and hindrances in its detection faced earlier, can now be eased with much simplicity, yet, giving a detailed and accurate outcome. As of the modern-day, it is comprehended that Machine Learning has become even more effective and helpful in collaboration with the domain of Medicine. Early determination of a disease can be made possible through machine learning by studying the characteristics of an individual. Such early tries can lead to the inhibition of disease as well as obstruction of permitting the disease to reach a critical degree. The work which will be described in this paper is to perform the diabetes disease prediction using machine learning algorithms for early care of an individual.