

ABSTRACT

Blood sugar or blood glucose is the main nutrient element that directly used for cellular metabolism. Common methods used in measurement blood sugar level is an invasive method through the sampling process on the patient. Thus, measuring blood sugar levels takes a long time and cause pain in patients due to the use of needles.

With these problems, it is necessary to measure blood sugar levels in a non-invasive manner that is able to perform measurements in real time. Measurement blood sugar levels can be done by measuring blood sugar levels using a LED installation method and photodiode sensor. Measuring blood sugar level using the linear regression method as a rule model in machine learning to measure blood sugar levels.

It is hoped that with the level measuring instrument. This non-invasive blood sugar can measure blood sugar levels in real time based on the Internet of Things without causing pain to the patient due to needle use.

Keywords: Photodiode, Blood Sugar, Linier Regression, Machine Learning, Internet of Things