**ABSTRACT**

Data mining techniques are used to manipulate the existing a large volume of data. Biomedical datasets pretense an elite challenge for machine learning and data mining techniques in order to extract accurate, understandable and hidden knowledge. This paper extensively investigates the role of a biomedical dataset (diabetes dataset) has been taken for finding the classification accuracy of that disease. Diabetes is a common disorder caused by a lack of insulin or insulin resistance leading to impaired glucose metabolism. Glucose (a simple sugar) is the key component used by the body’s cells to make energy. In order for glucose to move from the blood into most cells insulin is required (exceptions are the brain and exercising muscles). Insulin is a hormone made in the cells of the pancreas and is secreted into the blood in response to the blood glucose level increasing. According to that the whole dataset were classified to predict the accuracy of disease. The data are retrieved from the real time environmental setup especially it consists of information about glucose, cholesterol and insulin secretion level in blood. These are all considered as attributes. Machine learning provides methods techniques and tools, which help to learn automatically and to make accurate predictions based on past observations. The data mining classification algorithms of Weka were used to classify the data. The predicted values of the classifiers were evaluated using Weka tool with respect to the specific algorithms. Comparison has been made among various algorithms from three different categories of classifiers such that Function, Rule, and Meta. In this paper the conclusion is made as to infer which algorithm provides the maximum accuracy of the disease.