Abstract

In the field of medical science a tremendous amount of data is generated, doctors need to test the patient physically to find out the injuries and disease of the patient. This paper outlines the idea of predicting a particular disease by performing operations on the digital data generated in the medical diagnosis. In this project an efficient genetic algorithm hybrid with the techniques like back propagation and Naive Bayes approach for disease prediction is proposed. Bad clinical decisions would cause death of a patient which cannot be afforded by any hospital. To achieve a correct and cost effective treatment, computer technology Systems can be developed to make good decision. There is a lot of medical information unexplored, which gives rise to an important query of how to make useful information out of the data. The purpose of this project is to construct a basic prototype model which can determine and extract unknown knowledge (patterns, concepts and relations) related with multiple disease from a past database records of specified multiple diseases. It can solve complicated queries for detecting a particular disease and thus assist medical practitioners to make intelligent clinical decisions which traditional decision support systems were not able to. By providing efficient treatments, it can help to
reduce costs of treatment. The medical organizations are "rich in data" but their "knowledge utilization is poor ". There is a lack of sufficiency of improved analysis techniques to find relations, concepts and patterns in the medical data. Data mining is science and engineering study of extracting previously undiscovered patterns from a huge set of data. In this paper, data mining methods namely, Decision tree, Naïve Bayes, and Back-Propagation(ANN) algorithms are implemented on medical data sets. The medical datasets will be represented graphically(graphs, charts, shapes) using different visualization techniques. The algorithms are compared and evaluated on basis of their accuracy and time consumption factors. The algorithm which gives out high accuracy and less duration to give the output is analysed and implemented.

References

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Index Terms

Computer Science
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Keywords

Prediction, Classification, BP Neural networks, Genetic algorithms, Decision Tree, Regression, Naive Bayes.