Abstract

Medical data mining is the application of machine learning to highly voluminous medical database. The mining process aims at exploring the patterns and relationships within the medical data that could be exploited for the diagnosis and prognosis of the disease. Since medical databases are humongous in nature, feature selection is done using pre-processing, in order to reduce the dimensionality without compromising the accuracy, by removing immaterial data present in the database. Health care organizations are challenged to provide high quality and cost-effective care to patients. Heart disease prognosis is considered to be one of the tiresome and complicated tasks in medical field. Heart disease has given primary importance because of its exponential rise in recent years. It has been estimated that, by the year 2016, most important cause of mortality in India will be due to heart diseases. Hence an efficient heart disease prediction system is crucial. Different heart disease prediction systems have been introduced for the prognosis of heart disease. Through this paper, we propose an amalgamation of different algorithms such as Support Vector Machine, Random Forest and Naive Bayes. For feature extraction and dimensionality reduction, Principle Component Analysis is used along with Firefly algorithm for the optimization of output.
Computation Methods for the Diagnosis and Prognosis of Heart Disease

References

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Index Terms

Computer Science
Applied Sciences

Keywords

Heart disease prediction  Support Vector Machine  Random Forest  Naive Bayes
Principle component analysis

Firefly Algorithm.