**Disease Prediction System**

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ITS307 DATA ANALYTICS

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**Literature Review**

Research has been done in this field and people have produced methods to predict heart disease using supervised machine learning algorithms. Several research papers have been written on this topic. In the journal done by IJCRT organization, prediction of the user’s disease is done using random forest classifier algorithm. The accuracy achieved using Random forest classifiers for each disease such as Diabetes Model 98.25%, Breast Cancer Model 98.25 %, Heart Disease Model 85.25%, Kidney Disease Model 99% and Liver Disease Model 78%.

In another article, machine learning is used in detecting if a person has a heart disease or not. Machine learning has been used to detect whether a person is suffering from a cardiovascular disease by considering certain attributes like chest pain, cholesterol level, age of the person and some other attributes. In this paper, they have used KNN and random forest algorithms to classify people who have a heart disease from people who do not. The prediction accuracy obtained by K-Nearest Neighbor is 86.885% and the prediction accuracy obtained by the Random Forest algorithm is 81.967%.

2019 3rd International Conference on Computing Methodology Communication (ICCMC) states that to overcome the problem of not being able to predict the disease at an early stage on the basis of symptoms by the doctor, data mining was introduced. It has used K-Nearest Neighbors (KNN) and Convolutional Neural Network (CNN) machine learning algorithms for accurate prediction of disease. The accuracy of general disease prediction by using CNN is 84.5% which is more than KNN. Not only that, the time and the memory requirement for KNN was more compared to CNN. The system was able to give the risk associated with general disease after the prediction.

At the 2021 International Conference on Artificial Intelligence and Smart Systems (ICAIS), it was stated that cardiovascular disease (heart) is a crucial reason for mortality. So, early recognition of cardiovascular infections and continual management of clinician can decrease the death rate. The objective of this paper was to sum up the new examination along relative outcomes on coronary illness expectation and furthermore construct scientific ends by using techniques of data mining and classification using machine learning.

“Multi Disease Prediction Using Data Mining Techniques” (2017).

In this work, the performance of two distinct data mining classification algorithms was evaluated in order to determine the best classifier for the prediction of various diseases. The development of accurate and computationally effective classifiers for medical applications is a significant challenge in the fields of data mining and machine learning. Moreover this research evaluates the effectiveness of data mining-based disease prediction in medicine. The classifier categorized the data on medical diagnoses for diseases including cancer, liver issues, heart illness, and so forth. In terms of data classification, SVM method outperforms traditional cluster ensemble technique.

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