

CLOUD ASSISTED MULTISTAGE CLASSIFIER BASED DISEASE PREDICTION MODEL USING MACHINE LEARNING TECHNIQUE - REMOTE HEALTH CARE SYSTEM

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Introduction:

To predict the disease from a patient's symptoms and from the history of the patient, machine learning technology is struggling from past decades. Healthcare issues can be solved efficiently by using Machine Learning Technology. We are applying complete machine learning concepts to keep the track of patient's health. ML allows us to build models to get quickly cleaned and processed data and deliver results faster. By using this system doctors will make good decisions related to patient diagnoses and according to that, good treatment will be given to the patient, which increases improvement in patient healthcare services. To introduce machine learning in the medical field, healthcare is the prime example. To improve the accuracy of prediction we will use Support Vector Classifier, Naive Bayes Classifier, and Random Forest Classifier and combine the predictions of all three models. Machine Learning is the domain that uses past data for predicting. Machine Learning is the understanding of computer system under which the Machine Learning model learn from data and experience. The machine learning algorithm has two phases: 1. Training and 2. Testing. To predict the disease from a patient's symptoms and from the history of the patient, machine learning technology is struggling from past decades. Healthcare issues can be solved efficiently by using Machine Learning Technology. We are applying complete machine learning concepts to keep the track of patient's health. ML model allows us to build models to get quickly cleaned and processed data and deliver results faster. By using this system doctors will make good decisions related to patient diagnoses and according to that, good treatment will be given to the patient, which increases improvement in patient healthcare services.

Objectives:

The scope and objective of our proposed system is to build a machine learning model for prediction of disease and later integrate the ML model with web application to create a

complete doctor, patient portal, Since after COVID-19 pandemic people are hesitating to approach face to face with doctors, our proposed system helps to remotely approach the doctors. When a disease of patient is predicted by ML Model the application recommends specialized doctor based on the disease and allows the patient to consult the recommended doctor through a chat system provided in the application.

Methodology:

Patient Module:

1. The user needs to login to the application if he is already existing user, else user needs to register to the application with all the required details, all the details of the user is securely stored in the database using md5 algorithm.
2. The user is asked to enter the symptoms he/she is suffering from.
3. The symptoms are sent to the trained ML Model which consist of three classification algorithms i.e naive bayes classifier, random forest classifier and support vector machine respectively. The application will combine the prediction of all three classifiers to make the prediction more robust and accurate.
4. The prediction result is shown to the user and the application will also recommend the specialized doctor based on the prediction result.
5. The application provides a chat system, so that user can easily contact the recommended doctor.

Doctor Module:

1. The doctor needs to login to the application if he is already existing user, else user needs to register to the application with all the required details.
2. The application will show all the patients recommended to the respective doctor.

Results and Conclusions:

The application will be able to predict the disease of the user and recommend the doctor specialized for predicted disease. Provide chat system for communication for user and doctor.

The main aim of this disease prediction system is to predict the disease on the basis of the symptoms. This system takes the symptoms of the user from which he or she suffers as input and generates final output as a prediction of disease. This system gives a user-friendly environment and easy to use. As the system is based on the web application, the user can use this system from anywhere and at any time.