

A PROJECT SYNOPSIS
ON
DISEASE PREDICTION USING MACHINE LEARNING
A report submitted in partial fulfilment of the requirement for the award of
The degree of
BACHELOR OF TECHNOLOGY
In
COMPUTER SCIENCE AND ENGINEERING



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ABSTRACT

Disease prediction using machine learning is a system that predicts disease based on information or symptoms entered into the system and provides accurate results based on the information. If the patient is not very serious and the user only wants to know the type of disease, he has already experienced. Today, the health industry plays an important role in curing the diseases of patients, so this is also some kind of help that the health industry tells users, and it is also helpful to go to the hospital or any other clinic when the user does not want to. This, so that just by entering the symptoms and all other useful information, the user can know the disease he is suffering from, and the health industry can also benefit by asking the system about the user's symptoms and logging into the system. Just a few seconds, they can be precise to affirm the disease even to some extent. This Disease Prediction Using Machine Learning is completely done with the help of Machine Learning and Python Programming language and also using the dataset that is available previously by the hospitals using that we will predict the disease.

Introduction

Disease prediction using machine learning is a system that predicts diseases based on information provided by users. It also predicts the patient's or user's illness based on information or symptoms entered into the system and provides accurate results based on this information. If the patient is not very serious and the user only wants to know the type of disease, he has already experienced it. It is a system that provides users with tips and tricks to maintain the user's health system and provides a way to use this prediction to find diseases. Today, the health industry plays an important role in curing the diseases of patients, so this is also some kind of help that the health industry tells users, and it is also helpful to go to the hospital or any other clinic when the user does not want to. This, so that just by entering the symptoms and all other useful information, the user can know the disease he is suffering from, and the health industry can also benefit by asking the system about the user's symptoms and logging into the system. Just a few seconds, they can be precise to affirm the disease even to some extent. This DPUML was previously completed by many other organizations, but our goal is to make it unique and benefit the users who use this system.

Now, every day, doctors use many scientific techniques and methods to identify and diagnose not only common diseases, but many deadly diseases as well. Successful treatment is always due to a correct and accurate diagnosis. Doctors may sometimes be unable to make accurate decisions when diagnosing a patient's disease, so a disease prediction system using machine learning algorithms helps to obtain accurate results in this case. The machine learning disease prediction project was developed to overcome general diseases at an early stage. It is well known that in the competitive environment of economic development, human beings participate so much that they do not care about health.

According to research, 40% of people ignore common diseases and lead to harmful diseases later on. The main reasons for ignorance are laziness to go to the doctor and time problems. People are so committed that they don't have time to make appointments and see the doctor, which then leads to fatal illnesses. According to research, 70% of people in India suffer from systemic diseases, and 25% of people face death due to early ignorance. The main reason for developing this project is that users can sit at your convenience and check your health. The UI is designed in such a simple way that everyone can easily operate on it and can have a check-up.

Project Features

These are the features of Disease Prediction using Machine Learning:

- The project will use a data set to predict the patient's illness based on symptoms and other general information.
- This is done on the basis of the previous data set of the hospital, so after comparing them, it can provide up to 80% accurate results, and the project is still under development to obtain 100% accurate results.
- With the aid of disease prediction, you can predict the patient's condition, solve various problems and prevent them from many aspects.
- Provides system security, so no one can enter and no one can make changes to the system.
- The disease is predicted by an algorithm, the user must enter the symptoms to obtain the correct precision, the user must enter all the symptoms.
- Here, users must register before they can use prediction and then log into the system with credentials such as username and password.
- Once the user opens the system to login, the user must click the sign up / register button to register.
- After that, the user must provide some basic registration details, and then the user's details will be saved in the system.

System Requirement

HARDWARE REQUIREMENTS

- ❖ System : Pentium 4, Intel Core i3, i5, i7 and 2 GHz Minimum
- ❖ RAM : 512Mb or above
- ❖ Hard Disk : 10 GB or above
- ❖ Input Device : Keyboard and Mouse
- ❖ Output Device : Monitor or PC

SOFTWARE REQUIREMENTS

- ❖ Operating System : Windows 7, 10 or Higher Versions
- ❖ Platform : Jupiter Notebook
- ❖ Front End : React JS, HTML, CSS, JavaScript
- ❖ Back End : Python, JavaScript
- ❖ Programming Language : Python, JavaScript

Methodology

The proposed system of disease prediction using machine learning is that we have used many techniques and algorithms and all other various tools to build a system that predicts the disease of the patient using the symptoms and by taking those symptoms we are comparing with the system's previously available dataset. By taking those datasets and comparing them with the patient's disease we will predict the accurate disease of the patient. The dataset and symptoms go to the prediction model of the system where the data is pre-processed for future references and then the feature selection is done by the user where he will enter the various symptoms. Then the classification of those data is done with the help of various algorithms and techniques such as Decision Tree, KNN, Naïve Bayes, Random Forest, etc. Then the data goes in the recommendation model, there it shows the risk analysis that is involved in the system and it also provides the probability estimation of the system such that it shows the various probability like how the system behaves when there are n number of predictions are done and it also does the recommendations for the patients from their final result and also from their symptoms like it can show what to use and what not to use from the given datasets and the final results. Here we have combined the overall structure and unstructured form of data for the overall risk analysis that is required for doing the prediction of the disease. Using the structured analysis, we can identify the chronic types of disease in a particular region and particular community. In the unstructured analysis, we select the features automatically with the help of algorithms and techniques. This system takes symptoms from the user and predicts the disease accordingly based on the symptoms that it takes and also from the previous datasets, it also helps in continuous evaluation of viral diseases, heart rate, blood pressure, sugar level, and much more which is in the system and along with other external symptoms, it predicts the appropriate and accurate disease.

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Semester and Section	B. Tech CSE (AI and DS)- Section B - Vth Semester
Project Title and ID	Disease Prediction Using Machine Learning
Project Guide	Aditya Dev Mishra

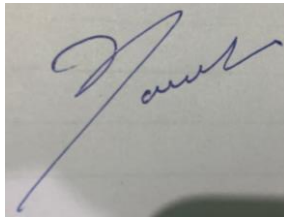
Aditya Dev Mishra and Signature

Team Member Names with Signature (Maximum 4)–

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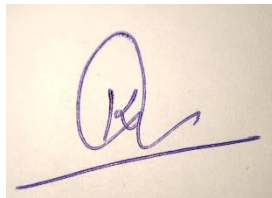
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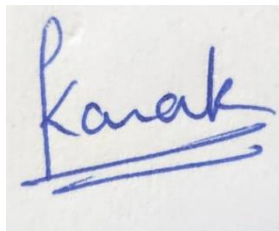
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