UNIVERSITI TEKNIKAL MALAYSIA MELAKA

BITI 2513: INTRODUCTION TO DATA SCIENCE

MULTIPLE DISEASE PREDICTION

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Introduction

Early detection of preventive diseases can play a crucial role in timely intervention and management. It also assists in efficient distribution of resources in the healthcare sector.
We endeavour to develop a system that facilitates early detection of multiple critical diseases based on their symptoms by using data analysis. One dataset that is being used but the dataset states many types of disease with their symptoms.

Objective

- To detect any type of disease in an individual based on their symptom.
- To prevent the disease from becoming worse.
- To help the patient with early symptoms detecting it in an early phase.
- To build a model that accurately detects any kind of disease in an individual.

Goal

Our main goal in this project is being able to detect any disease in an individual by using our disease detector. This detector helps to prevent the disease from becoming worse on an individual. Moreover, we are focused on the younger generation's health quality. This detector also helps to show the symptoms of any disease in our body. This detector would help to identify if that person is affected by serious illness ,it helps to find it in an early stage and we can start to treat it before it becomes worse. Besides that , we can also lower the rate of disease in the country as quick actions can be taken in order to eliminate multiple diseases and we can increase the healthy population rate in the country and get the best standing among other countries for the best health quality . Data science and Artificial Intelligence plays an important role in the making of this detector. The technology and knowledge helps to create this useful and technological detector.

Question

How can we help the current generation to overcome various diseases in early stages and how to determine if an individual is under any illness based on columns of data that show the symptoms for various diseases?

Success and Measurement

This project will build a model to analyze the data according to the related attributes or characteristics of a disease's symptoms to diagnose or detect whether the person has a disease or not. The model considered being successful when it is able to diagnose the disease and the success of this project will be measured by the performance of the model which is the accuracy of the model. This project is a success when the model performs good enough and has less errors.

Measurable result

- Model able to diagnose the disease
- Model built able to diagnose with great accuracy

Data Source

The dataset contains 4921 rows including the header which has 4920 instances and 18 attributes or columns which consists of the diseases' symptoms and the diagnosed diseases. The first column in the dataset is labeled 'Disease' while the others labeled 'Symptom_x' in which the x is in increasing order from 1 to 17. Each row is a diagnosed disease based on the symptoms. The purpose of the data is to record the symptoms of each disease diagnosed.

Column entries (attributes):
Disease - The diagnosed disease

Symptom_(1-17) - Diseases' symptom