CREATE A CHATBOT IN PYTHON

Diabetes prediction Chatbot

In today's world, diabetes are the most common and non-communicable growing disease in several countries. The Diabetes prediction Chatbot that predict the likelihood of individual developing diabetes and provide early preventive measures for an individual to live their life without diabetes.

Problem Definition

The problem is to build an AI powered diabetes prediction system that uses machine learning algorithms to analyse medical data and predict the likelihood of an individual developing diabetes. The system aims to provide early risk assessment and personalized preventive measures, allowing individuals to take proactive actions to manage their health.

This chatbot is mainly designed for people to predict diabetes at early stage so that severe side effects caused by diabetes can be prevented and for people to live their lives diabetes free.

Challenges

The diabetes prediction in real life can be challenging because a healthy person can also develop diabetes because of genetic, abnormal blood cholesterol, unhealthy eating, hypertension or high blood pressure. For this personal project, we designed a chatbot that predict the diabetes and provides early preventive measures are delivered by a friendly robot.

The various dataset from internet are analysed and we predict the early symptoms of diabetes so that we can prevent it at early stage.

The Idea

Our goal was to build a tool that could analyse the data of an individual and predict the occurrence of diabetes at the right time so that they can be healthy. I wondered if I could automate this process and help a lot of people to be healthy. Since most of people life are affected by diabetes to predict and prevent it. The idea of diabetes prediction chatbot was born.

It can:

➢ Help the individual to take preventive measures like exercise regularly, and alter people to drink more water
➢ If the people are overweight then it recommend them to lose weight according to their Body Mass Index (BMI)
➢ It predict the occurrence of diabetes at an early state
➢ It motivate the people to follow a high fibre diet.
➢ Free valuable resources by automating answers to common questions.

How predict Diabetes

Several different computational intelligence techniques can be used to predict diabetes complications like Logistic Regression, Random Forest, Support vector machines, K-nearest neighbours and so on.

Based on the few predictor variables of the patient

➢ Glucose
➢ Blood Pressure
➢ Skin Thickness
➢ Insulin
➢ BMI and so on.

Design Techniques

➢ User Interface

The user interface is integrated in website and it is user friendly so that the people can access them easily

➢ Natural Language Processing

The Natural language processing is implemented so that the user will feel the response coming from the humans there are different types of Natural Language Processing algorithms are available.

➢ Scalability

Considering the potential for future expansion the chatbot's ability can be extended and enhanced over time.

Designing a conversation

The next step was to apply the tone of voice on an actual conversation using the natural language processing algorithms. I started out by defining a basic flow with an individual

Welcome -> Give the basic details -> see the predicted results

Content Strategy

The next step was to find the best format to ask for the individual details. I looked on to some patterns on the internet and here is what I found

Most common types are

- The Dichotomous
- Multiple choice
- Text slider
- Likert scale

- Demographic
- Date/Time questions