GR-273 BUILDING A CHATBOT

Abstract

Chatbot is now a part of many of the online applications like Health Care, Education, E-commerce, etc. It made the conversation between the customers and the service providers much convenient as the chatbot can answer most of the queries without any human intervention from the website side. This saves a lot of time and work.

Introduction

Chatbot was first developed at MIT in 1966. It was named ELIZA. Chatbots are a branch of Artificial Intelligence. ELIZA communicated by using pattern recognition from the text it was given. Later, chatbots were improved with more datasets so that they can answer the queries. IBM Watson can be considered as one of the most successful chatbots. It can take inputs in natural language and answer the queries. Chatbots like Alexa and Siri can convert speech to text and answer the questions. They are used globally.
There are mainly two types of chatbots: Rule based and ML based.

Research Question(s)

The main questions regarding our project are: How to build a chatbot that can answer the human queries more accurately? What type of data can we use to train and test our chatbot? Which libraries to use?

Materials and Methods

We built a prototype chatbot with the help of python and NLTK library. NLTK is a Natural Language Processing Toolkit that helps in making the human readable text into computer readable form by tokenizing words and sentences. With this library help, we tokenize the given text into lsit of sentences. Then with the help of cosine similarity scores between the user input and the list of sentences, we return the sentence with the highest similarity score.

Results

For the prototype that we built, we were able to get some results. The text is related to fever that is taken from a website.

Conclusions

For most of the queries, the results thatwe got are correct. But, the answer is not accurate. If the format of the query is changed, the chatbot is not able to answer the query correctly. We want to improve this to answer the queries more accurately.

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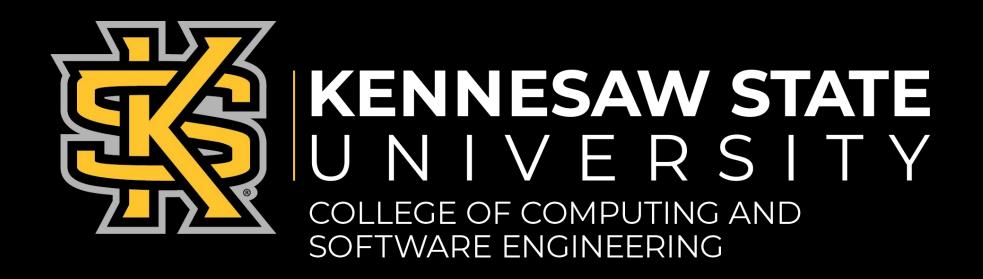
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