Smartphone Features ChatBot

*****Google colab link:**

https://colab.research.google.com/drive/1wVdoouQhY5vJGs9WSqiP3cqJzdhOIHHX?usp=sharing

*****Files**

test.py >> Python script that converts raw csv file to utilizable xlsx file.
output.xlsx >> Utilizable xlsx file.
test_output.xlsx >> A piece of data from utilizable xlsx file.
result.json >> Converted data from xlsx file to utilizable json file.

Solution

This is a chatbot that operates based on user intentions. The first step is to generate an intents JSON file that outlines all the potential results from users engaging with the chatbot. To do so, we require a group of tags that users can apply to classify their inquiries, such as the name and model of the product, among others. A new tag necessitates a distinct pattern. In this program, tags are randomly created using a piece of code.

Creating a JSON File

Recognizing these patterns can assist the chatbot in self-training on how users inquire about our chatbot's name, resulting in increased responsiveness. In this application, tags are randomly generated and chosen to be non-meaningful since product brands and models share similar names, aiding the program in differentiation. The chatbot will provide pre-programmed answers to address user inquiries.

Processing Data

Before developing our training data, we compile a vocabulary of all the terms utilized in the patterns, a list of tag categories, and an inventory of all the patterns in the intents file, including the corresponding tags for each pattern.

Designing a Neural Network Model

Neural networks have the ability to comprehend solely numerical values, so we must convert our data into a numerical form to enable a neural network to comprehend our intentions. In this program, we utilize the bag of words (BoW) encoding system to transform our data into numerical values.

Once our data is transformed into a numerical representation, we create a neural network model to which we feed our training data. The model will select a fitting response based on the tag connected to a specific feature.

How The Program Works?

The user can input a query through a while loop, which will then undergo a cleaning process. Afterwards, we apply our bag of words model to transform the text into numerical values and predict which tag in our intent the features most accurately represent.