Hello! Here is the summary of our code (Mental Care Chatbot\_v4\_0.ipynb)

1. Prepare and process the data

1.1. the dataset was used from this web page: https://www.kaggle.com/narendrageek/mental-health-faq-for-chatbot

1.2. Prepare 98\*5 questions

1.3 using csv related function read data from google drive

1.4 import questions and answers

2. Transform

2.1. Feature Words Extraction, using BOW and TF-IDF

2.2. Build labels for 98 questions and answers

3. Machines Training and Evaluations with SVM, KNN and Decision Tree (DC)

3.1. Divide dataset

3.2. BOW+SVM

3.3. TF-IDF+SVM

3.4. BOW+KNN

3.5. TF-IDF+KNN

3.6. BOW+DC

3.7. TF-IDF+DC

3.8. Five times cross validation, accuracy

4. Prediction of input data

4.1. Input a random question (the question topic is related to mental health) by using SVM, KNN and DC prediction function

5. Clustering for the dataset

5.1 KMeans clustering

5.2 EM clustering

5.3 HC clustering

6. Visualization

6.1. SVM confusion matrix visualization

6.2. KNN confusion matrix visualization

6.3. DC confusion matrix visualization

6.4. KMeans confusion matrix visualization

6.5. EM confusion matrix visualization

6.6. HC confusion matrix visualization

6.7 using anvil(https://anvil.works/build) combined with colab to design our front- end web page, the deployed page is:

https://qosxmm7eff76s4tw.anvil.app/45E5LXSI3V7O4AZQLOZ5DLQW

6.8 Bar chart graph of error analysis

7. Error analyzation

7.1. Error Analysis for SVM, KNN, DC, KMeans, EM and HC

8. Recommendation System

8.1using confusion matrix to generate the recommendation csv file

9. Anvil front end design

9.1 using! pip install anvil-uplink, import anvil.server, @anvil.server.callable,etc commands to connect colab, anvil front end mainly called machine learning prediction function and recommend function from the colab to realize the Q&A system demo display

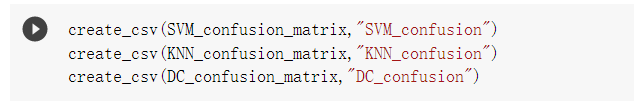
Here are some steps to deploy our chatbot system into your PC.

1. Download dataset zip file (Mental Care Chatbot Dataset.zip), colab notebook file (Mental Care Chatbot\_v4\_0.ipynb)

2. Run ipynb file from the beginning to the end.

Tips:

1. You need to authenticate your google drive to upload the dataset. Please put dataset files under MyDrive folder. Our deployment file path is /content/drive/MyDrive/xxx.csv
2. If installation needs you to restart, like restart RUNTIME. It is okay to restart. But you have to run the previous code again cause the previous storage info will be deleted after restarting.
3. If your google drive already have files with these names showing below.



Please delete these files before importing Matrix as csv because it will generate some errors. We are finding ways to cope with it.

3. after executing anvil.server.wait\_forever()

You can open our chatbot GUI interface and input some questions!

https://qosxmm7eff76s4tw.anvil.app/45E5LXSI3V7O4AZQLOZ5DLQW

you can also visit our GUI console to check the code.

https://anvil.works/build#clone:QOSXMM7EFF76S4TW=HQGUYHKBR6Q5HCEL6F7BWEYY

Thank you very much for your work!

Group 6