BERT-based Sentiment Analysis for COVID-19 Tweets Project Source Code

Model Source Code

In the 'Deep learning model' folder the 'BERT-based Sentiment Analysis for COVID-19 Tweets.ipynb' file is founded and it contains the model source code.

In addition to a 'datasets' folder that contains the datasets used in our code

In order to run this code, follow these steps:

1. Upload the folder 'datasets' to your google drive route.
2. Create a folder in the route of your google drive space named models in order to contain the trained model after the training.
3. Open the 'BERT-based Sentiment Analysis for COVID-19 Tweets.ipynb' file using Google colab.
4. Run the notebook using GPU resources.

Mobile Application Source Code

Front-end source code (FLUTTER):

In the 'Mobile application' folder a 'classifier_app_v2' folder is founded, it contains the flutter completed project with all the assets needed

In order to run this project just open this folder using android studio or any other supported IDE and run the project on a physical device or emulator.

If any problem accrued, please use following versions:

```
C:\Users\ASUS>flutter --version
Flutter 2.2.0 • channel stable • https://github.com/flutter/flutter.git
Framework • revision b22742018b (2 years, 1 month ago) • 2021-05-14 19:12:57 -0700
Engine • revision a9d88a4d18
Tools • Dart 2.13.0
```

be informed that the flutter application will execute just the user interfaces unless the flask server is running to be fully functional.

Back-end source code (FLASK):

In the 'Mobile application' folder a 'Flask Sentiment Backend.ipynb' file is founded, it contains the Flask source code.

Beside another folder named 'Classifier-model' which contain our trained model that was saved on the Google Drive 'models' folder

In order to run the Flask code, the Jupyter notebook IDE is needed and the following steps is required:

1. Install all the modules needed required which the following commands on CMD

```
pip install tensorflow_text
pip install tensorflow
pip install matplotlib
pip install emoji
pip install numpy
pip install re
pip install flask
pip install flask_cors
```

2. Edit the path to the model depending on where this project is located on your PC

```
# importing the model
import tensorflow as tf
import tensorflow_text as text
classifier_model = tf.saved_model.load("C:\\Users\\ASUS\\Documents\\M2 final project\\Classifier-lstm")
```

3. Run the code notebook