Speech Emotion Recognition

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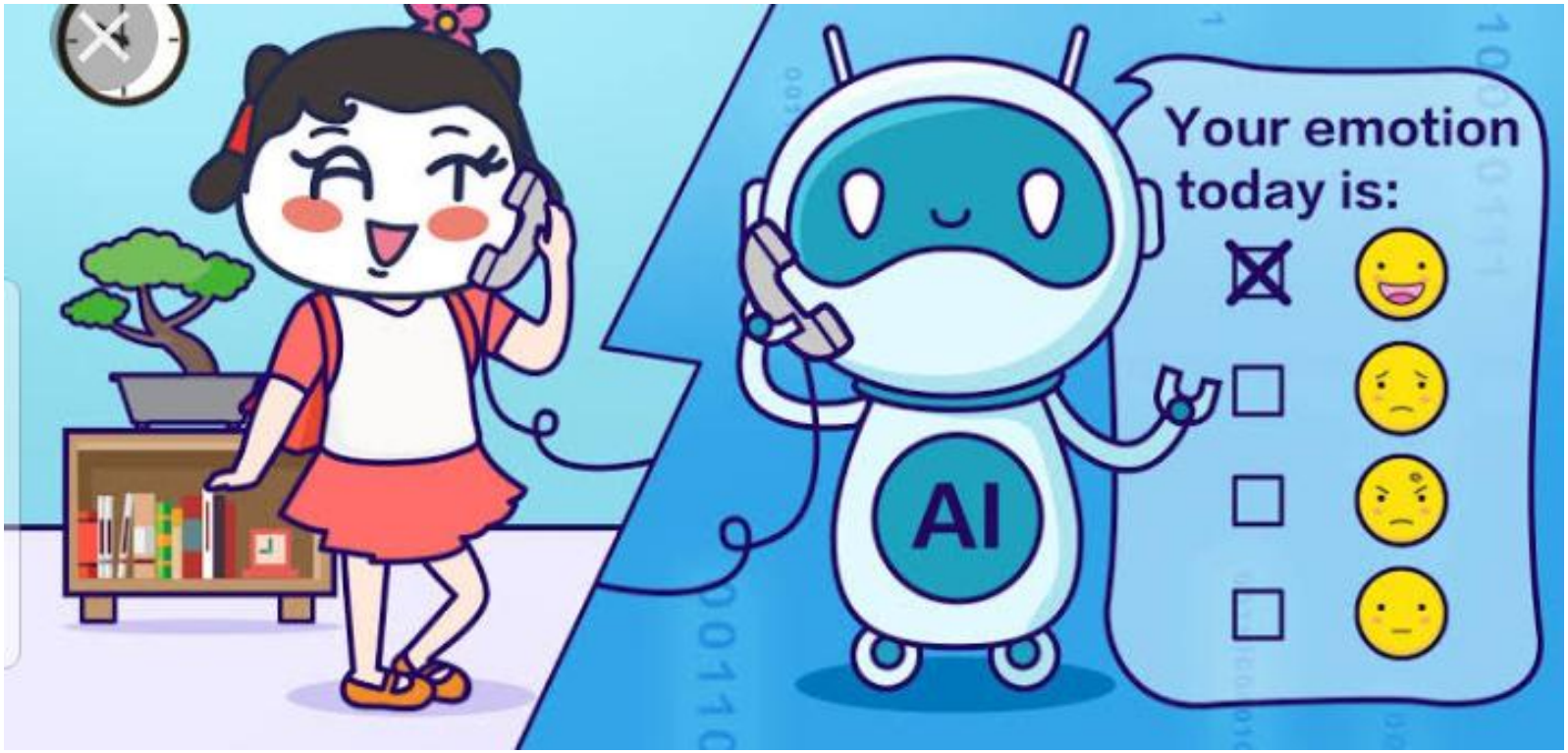
Emotion Detection



Emotion Detection

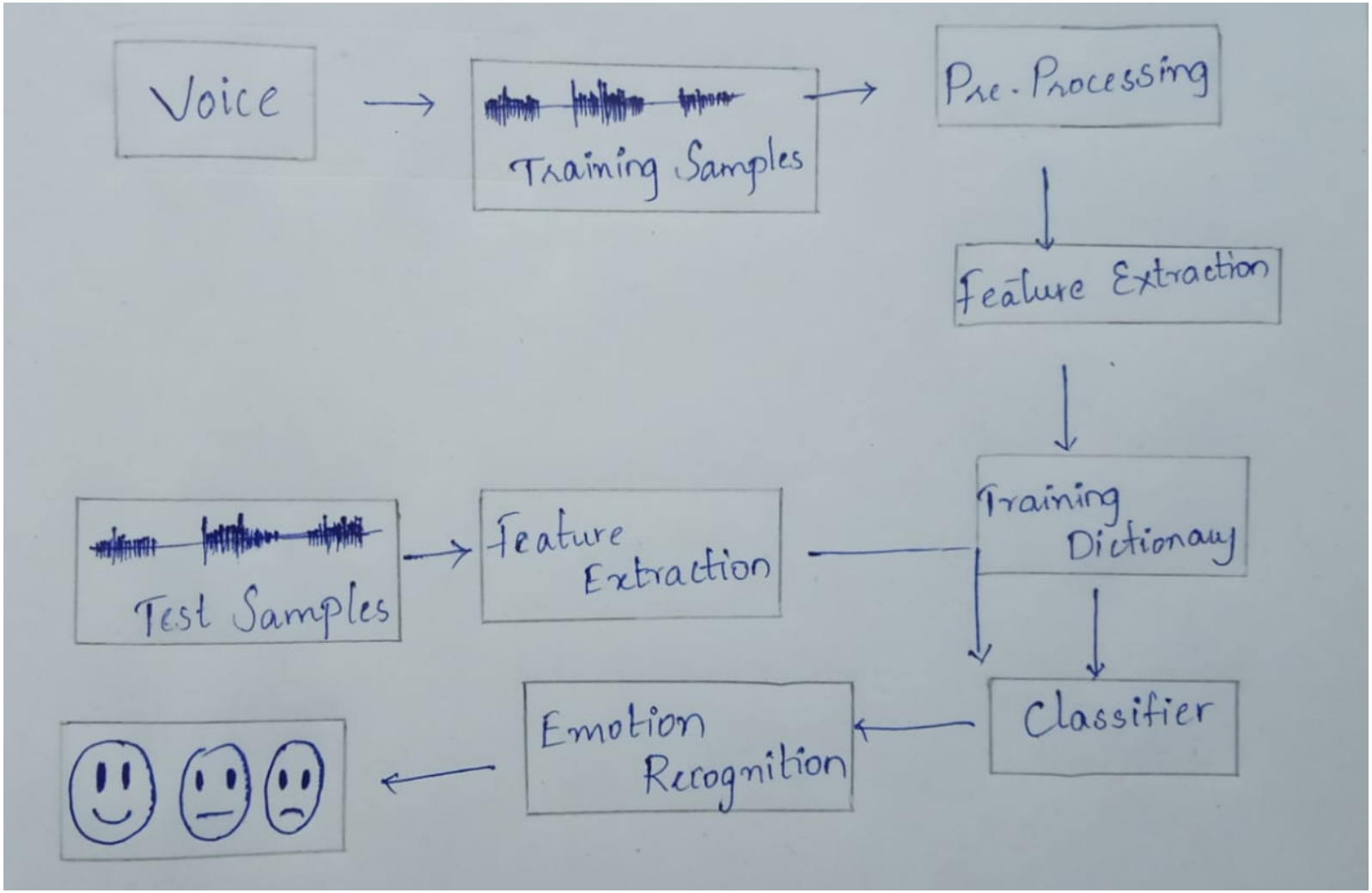
Introduction

Speech Emotion Recognition is the act of attempting to recognise human emotion and affective states from speech.This is capitalizing on the fact that voice often reflects underlying emotion through tone and pitch

Libraries

- Using Librosa,we can analyze audio and music
- The Soundfile and Sklearn to bulid a model using MLP classifier
- RAVDESS dataset ,this is the Ryerson Audio - visual database of emotional speech and song dataset

Flow Chart


Voice
Training Samples
Pre-Processing
Feature Extraction
Training Dictionary
Classifier
Emotion Recognition
Test Samples
Feature Extraction

Task

- Make the necessary imports
- Extract features from Sound file
- Define a Dictionary to hold numbers and emotions available in data set
- Loading the data
- Spilt the data set into training and testing sets
- Initialising the MLP classifier
- Training the Model
- Calculating the Accuracy of model

Tech Stack

- Python 3.8
- Jupyter
- Libraries - Librosa , Soundfile and Sklearn
- Dataset - RAVDESS

Learnings

- LaTex
- Gitlab
- MLP Classifier
- Python set and Booleans

challenges

- MLP Classifier
- Extracting Features from Soundfile

Reference

- https://www.kaggle.com/shivamburnwal/speech-emotion-recognition
- https://medium.com/@karmoaditya/recognizing-emotion-from-speech-using-machine-learning-and-deep-learning-2e1c8f2d3b1d

Output

jupyter speech emotion recongnition Last Checkpoint: an hour ago (autosaved)

Logout

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

Run Code

Accuracy: 69.79%

In [44]:
```
from sklearn.metrics import classification_report,confusion_matrix
```

In [45]:
```
print(classification_report(y_test,predictions))
```

```
              precision    recall  f1-score   support

        calm       0.81      0.86      0.83        56
     disgust       0.63      0.59      0.61        46
     fearful       0.60      0.95      0.74        41
       happy       0.80      0.41      0.54        49

    accuracy                           0.70       192
   macro avg       0.71      0.70      0.68       192
weighted avg       0.72      0.70      0.68       192
```

In [ ]:

In [ ]:

Teammates

THANK YOU