# Part 3. Compare different pre-trained sentiment analysis models.

## Code 1: HaggingFace\_Models.ipynb

Function: This code is to choose a proper pre-trained sentiment analysis model from the top-listed models in the Hugging Face, an AI community. An easy test set is used and expected to generate a sentiment label “positive”, “neutral” or “negative’. Only the model that make the full accurate prediction will be selected to predict our playlist with over 400 songs.

Implementation: The code doesn’t require input file. It can be practiced in Jupyter Notebook.

## Code 2: sentiment\_analysis\_eval\_multi\_models\_comparison\_final.py

Function: This code will predict the sentiment labels of lyrics from a playlist with over 400 songs using three pre-trained sentiment analysis models. They are “Vader”, “TextBlob”, and “Hugging Face: Bertweet”. Prediction inconsistency among the three models will be tabulated and visualized in plots. The lyrics are also manually evaluated. Model prediction will be compared with the manual evaluations to calculate the model accuracy.

Implementation: The code can be run on any python IDE. Prerequisite python libraries include ”VaderSentiment", "textblob", "happytransformer", "emoji", and other necessary libraries. The code will take “my\_playlist\_4\_multi\_model.csv” as an input for the 1st part (sentiment prediction) and take “playlist\_sentiment\_eval.xlsx” as an input for the 2nd part (model accuracy).