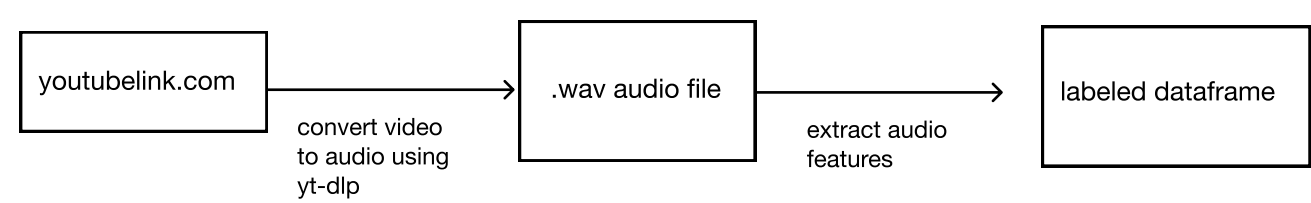


Film Music Analysis: Labeling Movie scores

After training the models, I saved them all and ran them on existing audio clips from movies. However, all of the clips were labeled ‘relaxing-calm’, which might be due to the fact that movie music is a lot more orchestral and ‘background’ than the data that I trained the emotion labeling on.

In order to create more training data, asked chat-gpt for a list of youtube links to scenes that matched a specific emotion. I then filtered through these links (I ended up needing to find the links on my own as many of these links didn’t work).

data_creation - this file is where I created new labeled emotion data. The general pipeline I took was:



I combined the labeled dataframe I created with the previous training data. I then trained the classifier again. I ran it on some new movie audio files. It’s hard to tell if/how much it improved, and if I had time I would further explore creating better training data.

Organizing my results

For both models (emotion classification and instrument classification), I trained then saved the scalers and models. This way, I could quickly load them in and use the classifiers on new data. I created a main.py file, which iterates through all movie files in my data folder, extracts the colors from the images, labels the instruments, and labels the instruments. It then saves these filenames and labels in a csv file: **music_analysis.csv**

Visualization

I had several ideas for visualizing these labels and their relationships. Some questions I had were: how is color + emotion correlated? Are cooler tones more prominent is music labeled sad/quiet? Furthermore, whats the average color of each emotion label? Whats the most common instrument label? Are certain instruments correlated to certain emotions?



happy-pleased seems to have the brightest colors (colors like yellow etc) which makes intuitive sense to me.

Sad-lonely also has a lot of more cooler toned colors

relaxing-calm, and quiet-still have the most neutral colors

For the instruments, most of the pieces ended up getting labeled as piano so the visual results were less interesting. I think this is because movie music is a lot less defined/ prominent that the training data which was more classical music with clear instruments. For future exploration I would work on refining the instrument classification