Assignment 1 – Report of Two tasks from Notebook 3.1

Of the tasks included in the notebook I decided to write about my findings on the first and second tasks. From the first task, I went through each of the features, looking at the highest and lowest scores for each. In my opinion, there was a difference in how well songs were categorized.

Features like ‘tempo’, ‘duration\_ms’, and ‘key’ are all objective features and so the sorting of these songs by highest to lowest created structured outcomes. These features don’t relay any further information about the song and thus aren’t the most efficient way of creating playlists containing similar-sounding songs when considering the initial elements of a song they fail to provide any nuanced choices.

Features like ‘acoutsticness’ are more subjective and harder for the model to sort but generate results of similar-sounding songs. Admittedly I don’t have many acoustic tracks on the playlist I was using so this might be both the detriment and advantage of the feature, whereby having limited samples means that sounds that sound very different to the majority of my playlist work well together in this regard. This was similar for the feature ‘speechiness’, I don’t have many songs that contain spoken words which meant the results were better sorted because of the few examples of songs with spoken words. I’m not sure how efficient it would be to use ‘speechiness’ as a main factor for creating playlists because even though there may be genres that contain more speech than others and that might fit well together, as previously mentioned I do not know if those genres contain enough overlap.

A feature I felt had the least coherence was ‘danceability’. By looking at the songs that generated high and low results for the danceability feature I was able to better understand what the feature was looking for. I can see how songs would rank higher, as shown below, there are the top 3 songs and the bottom 3 songs for this feature. Interestingly I would say that I disagree with the premise of this category because despite it leveraging different musical elements, I didn’t feel like it captured the ‘danceability of any of the songs’.

A screen shot of a computer

Description automatically generated with low confidence

A picture containing text, font, screenshot, number

Description automatically generated

Rather I interpret this category as a misnomer for a feature that is registering several elements that cannot be described easily in one of two words.

Another feature that toes the line with coherence is ‘Valence’, which records the emotions or liveliness of a song. This is generally easy to do for songs where the instrumental matches the tone of the lyrics, but I think that this feature may become stumped by subversive songwriting and music composition.

For the second task, where I was investigating the similarities between songs there were categories that I thought provided better results. I started off looking at songs that had similar cosine values for the features ‘energy’ and ‘danceability’. I focused on the songs that has a high cosine value (over 0.9) which meant that I could also see the differences in how many suggestions were made for each category as well as knowing that the songs were considered extremely similar. The results reflected my feelings from the first task in that I don’t think that ‘danceability’ is a good category for organizing songs nor finding similar songs because I didn’t see many similarities that I would look for when considering the quality of a playlist.

These results might also reflect the limited examples provided in my playlist. There is a wide variety of songs rather than many songs that fit into the same genres, meaning it is more difficult to find songs that I would consider more similar. When looking at ‘energy’ and ‘valence’ I thought that it was better at correlating songs together even though it suggested fewer songs overall.

When looking at ‘tempo’ and ‘valence’ I found the issue of mis-categorization whereby sad-sounding songs that were actually happy were paired with sad songs, this might work well for some people, but I feel like the ‘emotion’ of the song is something that I find important when creating playlists.