

Final Project: Taylor Swift's Spotify Analysis

For my final project, I analyzed the dataset *taylor_swift_songs.csv*, which contained data pertaining to Taylor Swift's Spotify analytics. Using Jupyter Notebooks, I cleaned the data using Python (the pandas library) and visually documented my observations. To visualize the data, I used Python packages such as matplotlib and seaborn. My analysis focused on answering specific questions about her music, targeting the popularity and energy.

For my first question—Which Taylor Swift albums are the most popular based on Spotify popularity scores?—I found that *Lover*, *The Tortured Poets Department*, *Reputation*, *Midnights*, and *Folklore*.

In exploring my second question—How do the energy levels of tracks vary across different albums?—I discovered that the energy levels of Taylor Swift's tracks show significant variation across her albums. Albums such as *1989* and *Speak Now* have the highest average energy levels, indicating more upbeat and lively tracks. In contrast, albums like *Folklore* and *Midnights* have noticeably lower average energy levels, reflecting a softer, more laid-back style.

Finally, in addressing my third question—Is there a correlation between the average energy and popularity of her albums?—I identified a slight negative correlation. The regression line in the plot generated shows a downward trend, indicating that albums with higher average energy tend to have slightly lower average popularity scores. However, the correlation does not appear to be strong, as the data points are scattered widely around the regression line. This suggests that while there may be some relationship, energy does not primarily determine an album's popularity.

If I were to present these insights to a potential client, such as Tidal or another smaller streaming platform, I would recommend utilizing this analysis to enhance user engagement and competitiveness against larger platforms. Platforms could use track attributes like energy and popularity to curate highly targeted playlists, appealing to specific audiences. For example, playlists featuring Taylor Swift's 1989 and Speak Now could be targeted toward users who prefer high-energy tracks, while Folklore and Midnights could target those seeking a softer, more relaxed mood. Additionally, by highlighting less popular songs, these platforms could foster discovery and engagement, setting themselves apart as a place for music exploration. Such strategies would allow smaller platforms to attract fans and remain competitive in an industry dominated by larger services.

To build on this analysis, I would like to explore additional factors within this dataset, such as danceability, acousticness, and other attributes. Investigating how these factors impact track popularity could provide a more detailed understanding of user preferences. I would also like to compare Taylor Swift's analytics to other artists to determine if similar trends exist across genres or if her data reflects unique patterns. These investigations would further enhance the ability of streaming platforms to provide personalized and impactful user experiences.