

Gnod Project: Party-Song Recommender

By Katya Kraft



Introduction

Developed a **party-ready song recommender** that utilizes clustering techniques to suggest songs based on the key attributes **danceability and energy**.

The dataset used for this analysis consists of a **1000 songs with their respective features from the Spotify API**, which I processed and analyzed to identify patterns in music that align with different party atmospheres.

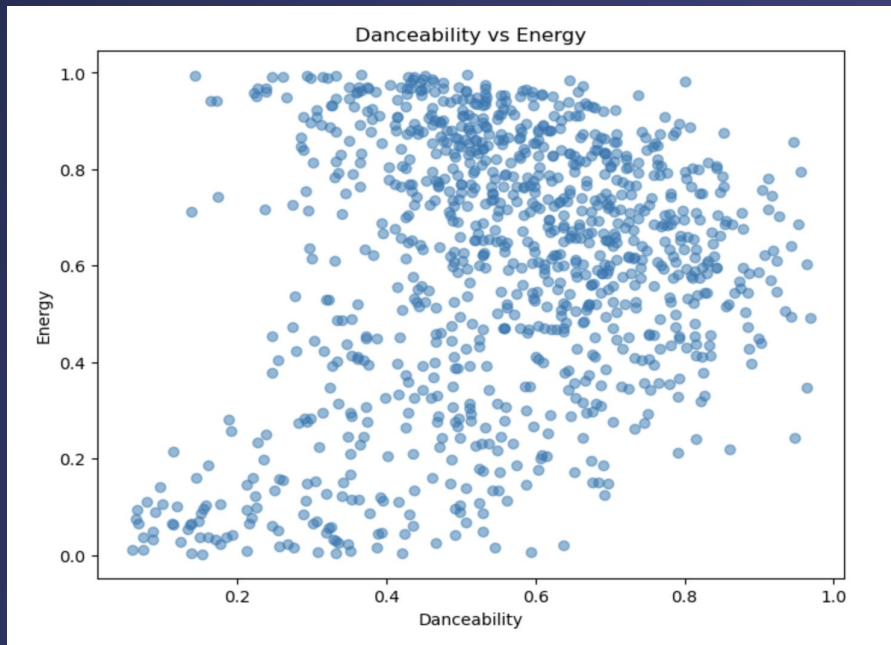




K-means Clustering



Danceability vs Energy distribution:

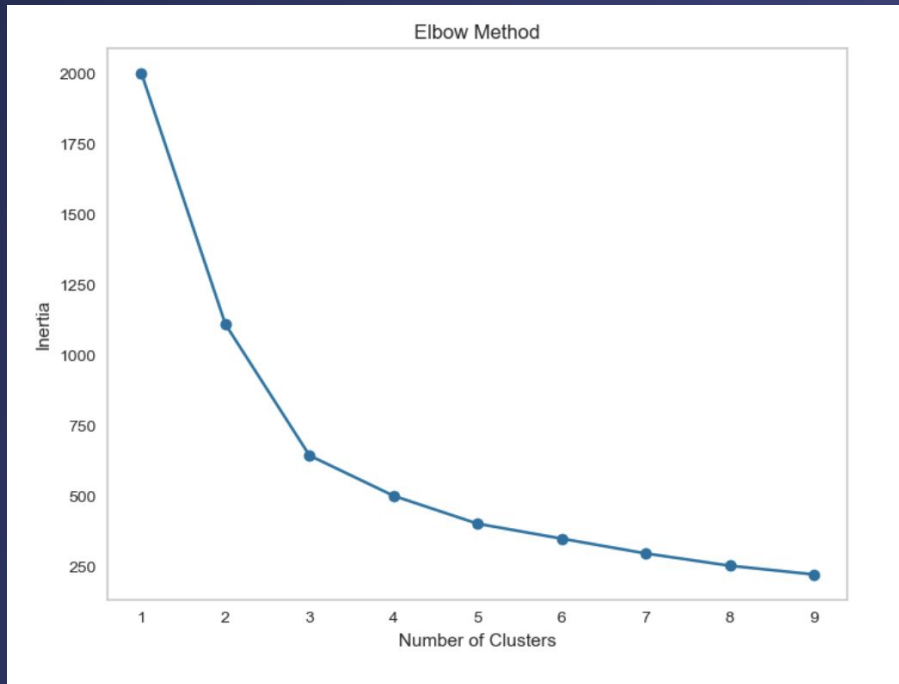




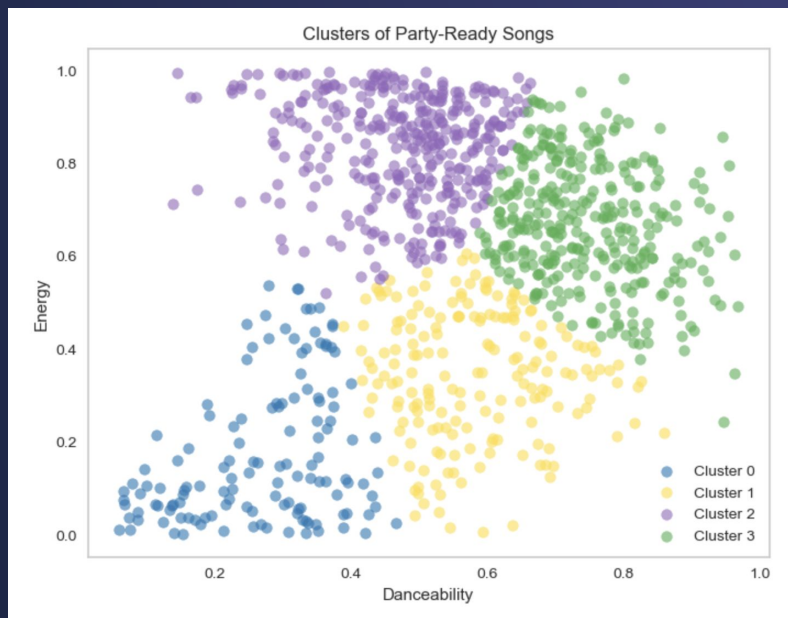
Elbow Method



Elbow Method: $k=4$



Cluster Distribution



Clusters & Cluster Names:

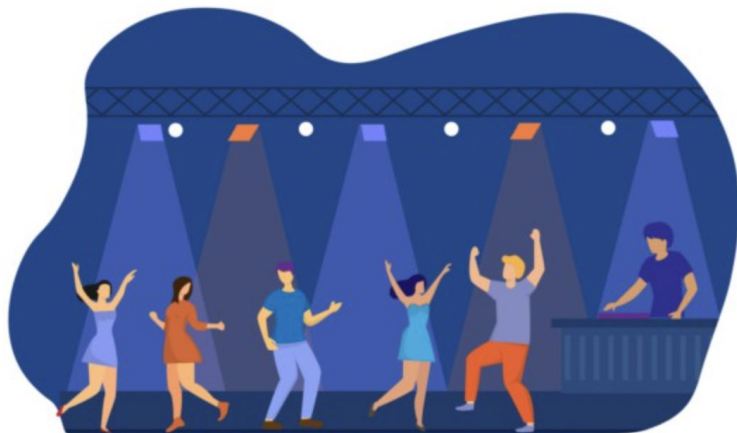
	cluster_name	danceability	energy
cluster			
0	Laid-Back Beats	0.269180	0.173279
1	Groove Warm-Up	0.581561	0.345170
2	Dance Floor Ready	0.475895	0.833508
3	All-Out Party	0.746666	0.668469

Streamlit – Demo



Party-Ready Song Recommender

Enter a song, and we'll find some party-ready tracks for you to complete your playlist!






Conclusion

The model successfully **grouped songs into distinct clusters** representing different **party atmospheres**, helping users find songs that align with their desired vibe.

The recommendation system provides a **personalized experience** by suggesting songs from the same cluster based on user input.



Possible Improvements:

- **Expand the Dataset:** Increasing the number of songs could improve the model's accuracy and generalizability, allowing for more diverse recommendations.
- **Incorporate More Features:** Could lead to more refined recommendations and a broader range of musical styles.
- **Broaden the Theme Scope:** Expanding the system to recommend music for different themes such as relaxation or study, could make the application better and more appealing to a wider audience.



Thank you!

