

CAPSTONE PROJECT - APRIL 2022

DISCO DUO

BY VI BUI

PROTOTYPING:

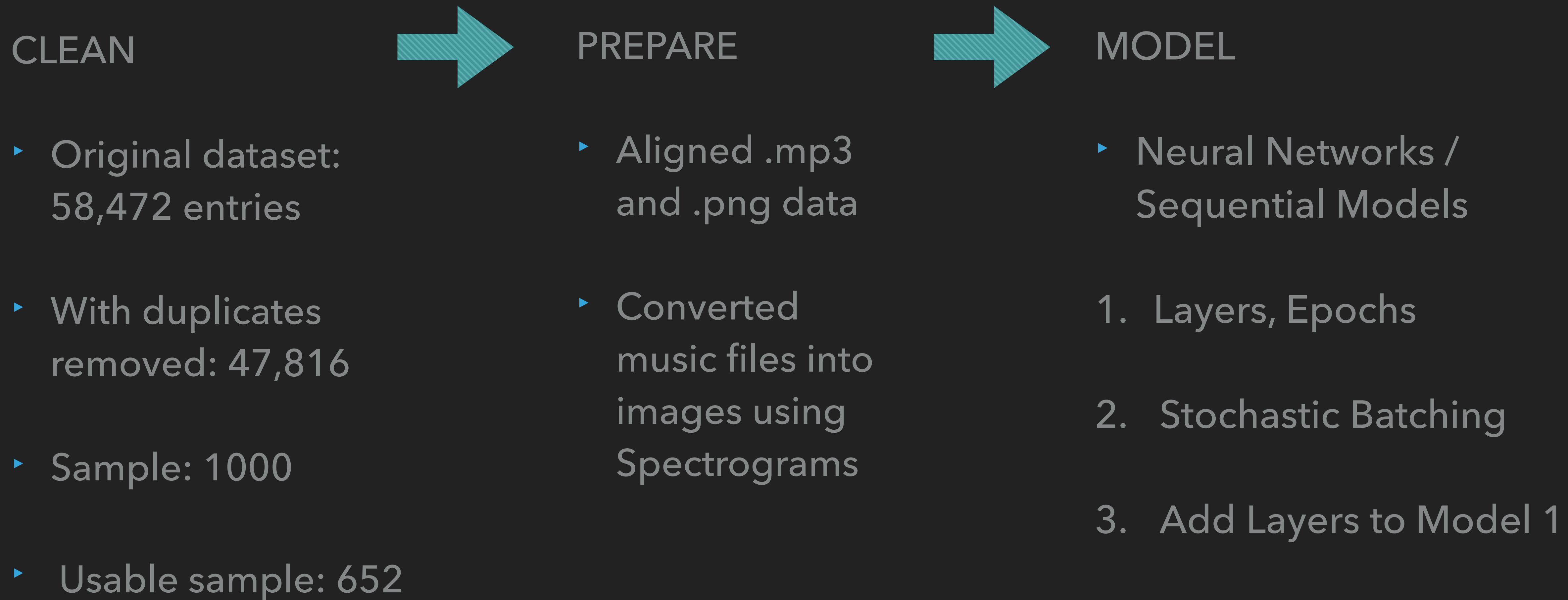


CONNECT PEOPLE THROUGH MUSIC IN A NEW WAY

- ▶ The Idea: create a platform where listeners of the same song are connected and able to discover new songs through their “connector song” by requesting another song based on a musical metric such as: danceability, energy, speechiness, acousticness, instrumentalness, liveness, and valence
- ▶ Business Value: connect people through music in a new way // connect people in a new way through music

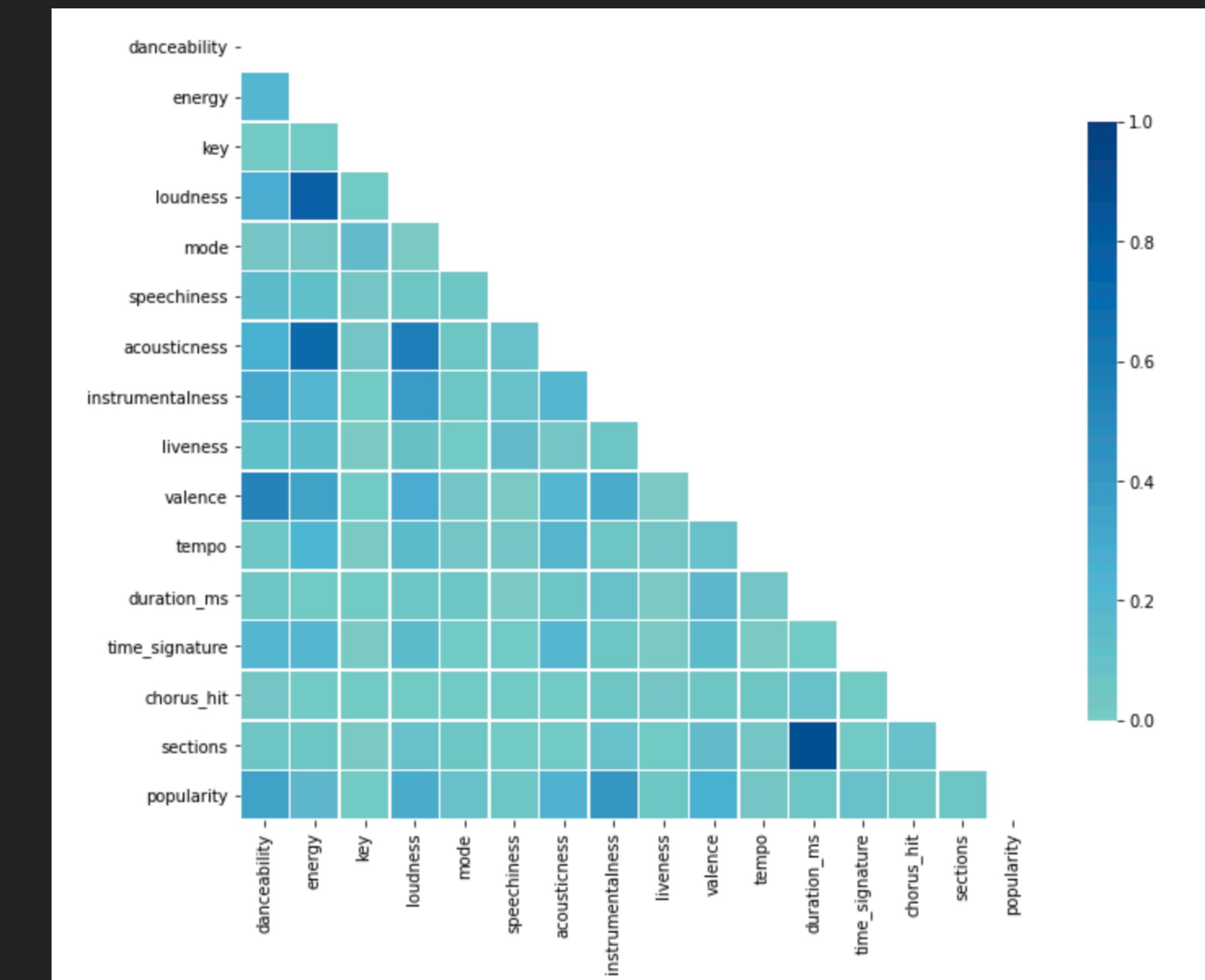


LIKE A LOT OF DATA, MUSIC DATA IS DIRTY . . . WE CLEANED IT



MUSIC METRICS - CORRELATION MATRIX

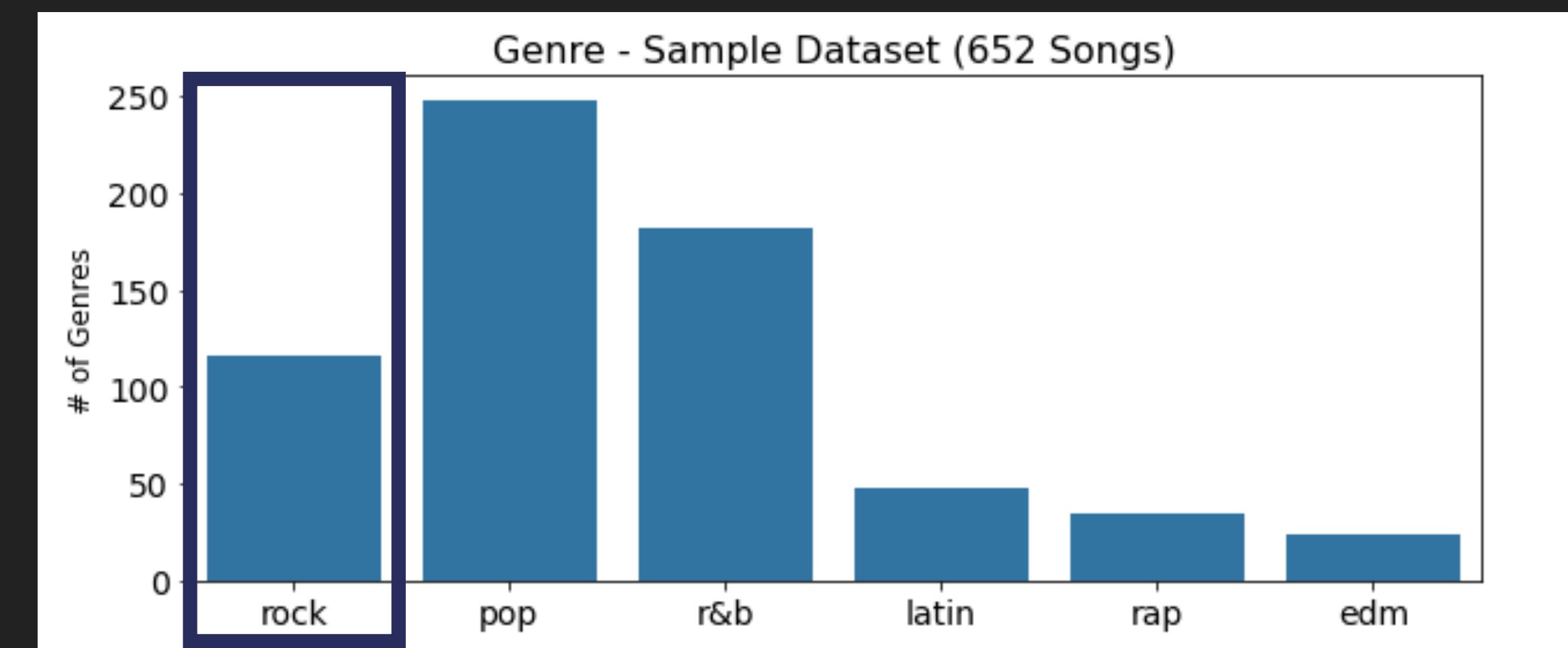
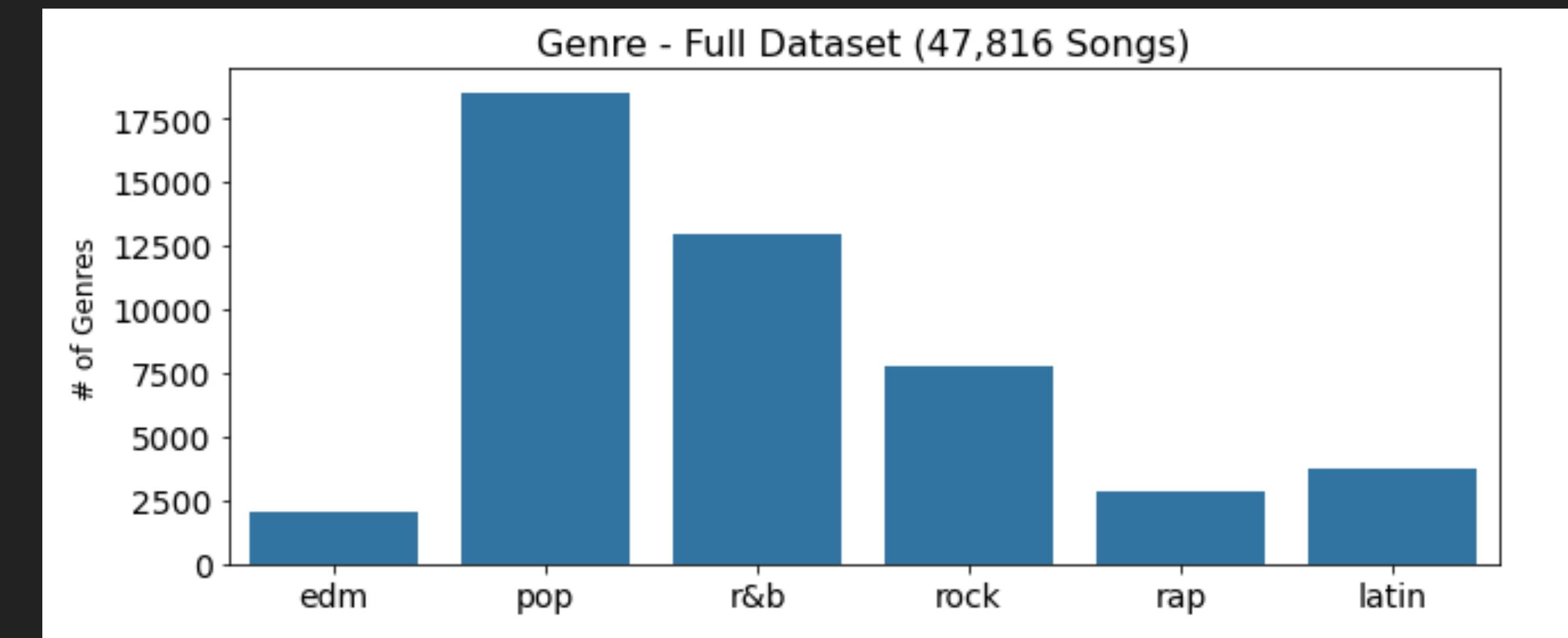
- ▶ Danceability = most strongly correlated with valence (happiness), popularity, loudness, and energy
- ▶ Energy - to be modeled in future = strongly correlated with loudness and acousticness (likely strongly negatively correlated)



ABOUT THE DATA

GENRE DATA

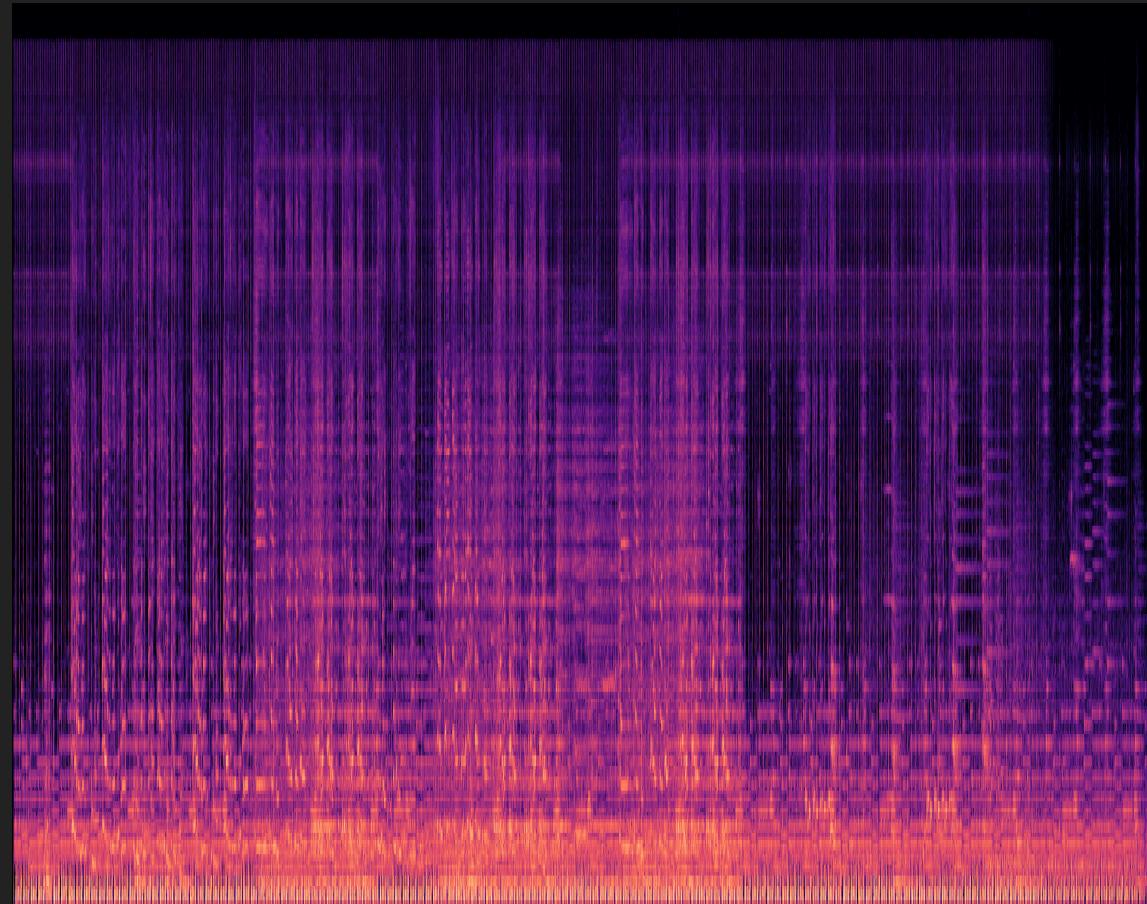
- ▶ Sample dataset had proportionately more Rock songs than the full dataset



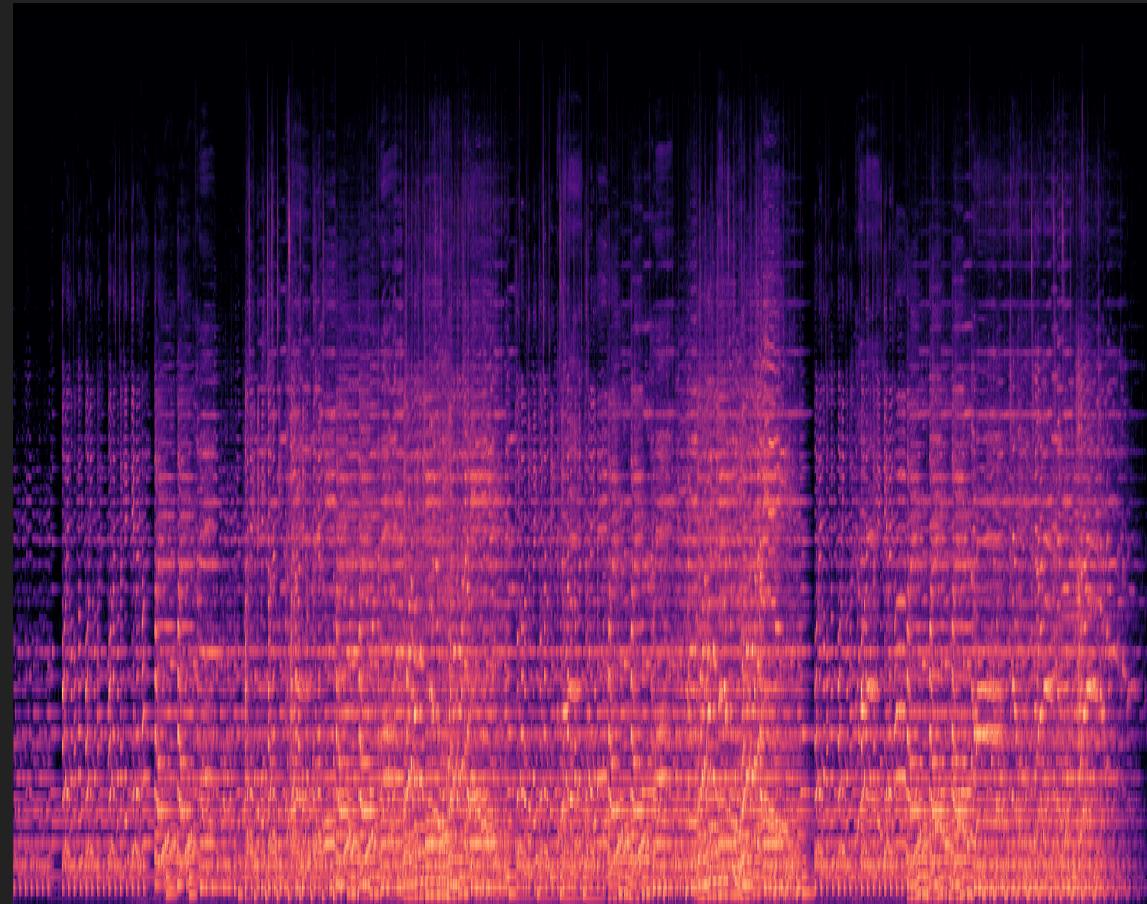
FOR YOUR VISUAUDIO LISTENEARING PLEASURE

SPECTROGRAMS - SEE THE SOUND

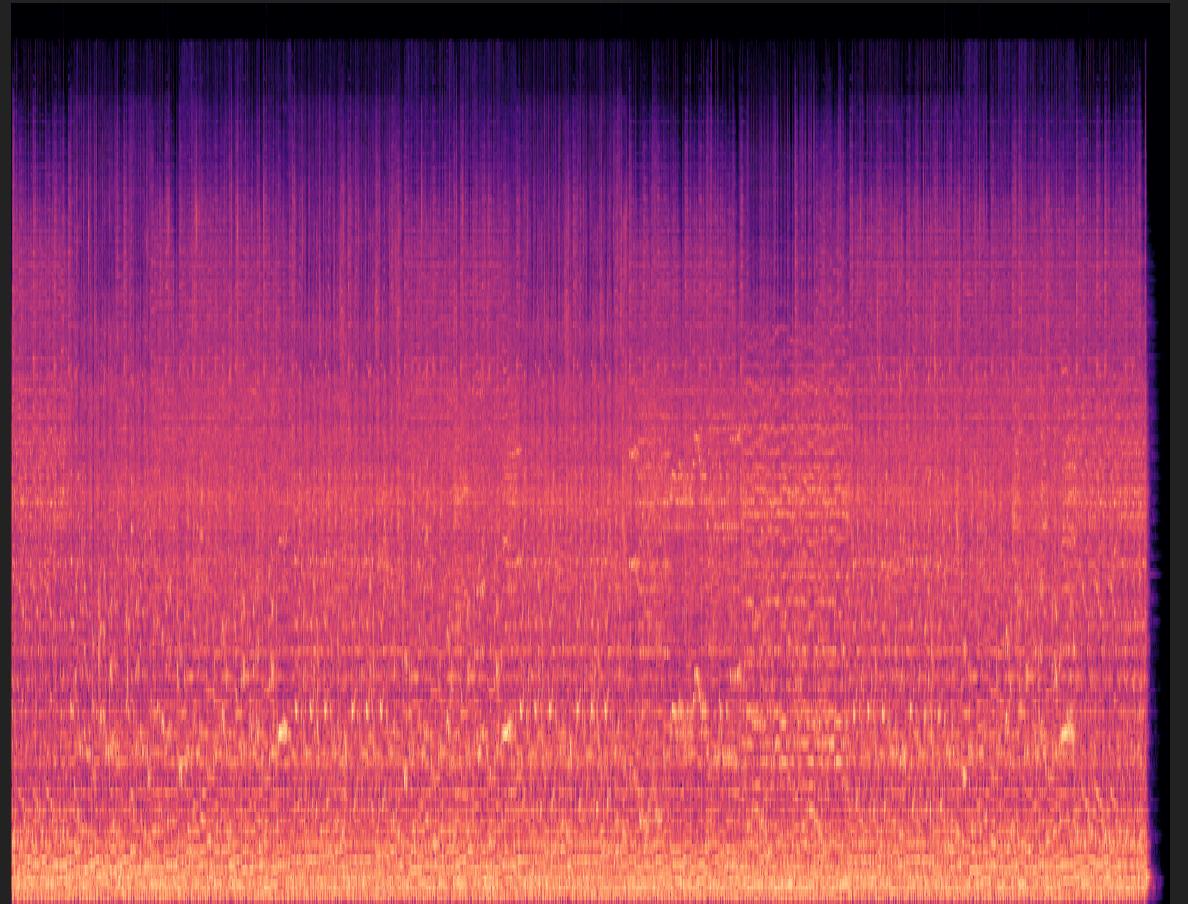
Sade - No Ordinary Love



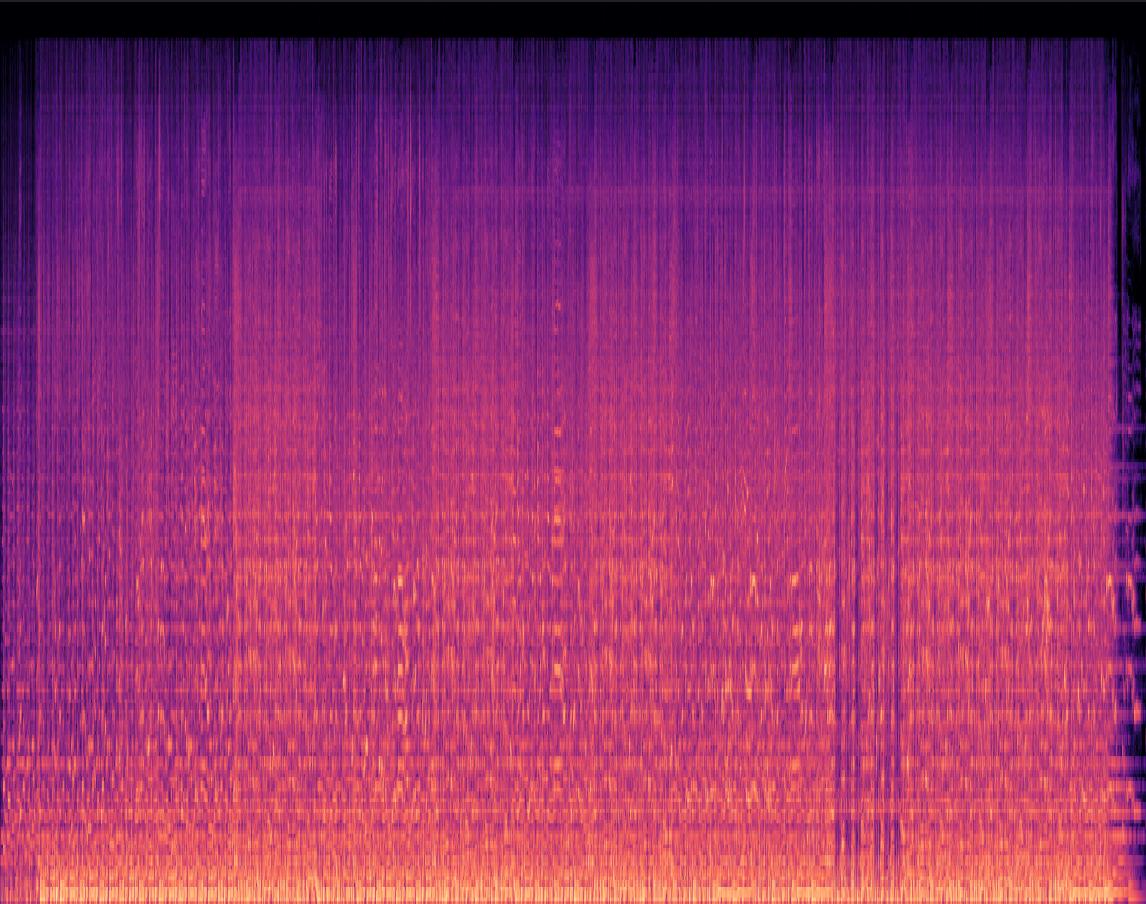
John Denver - Fly Away



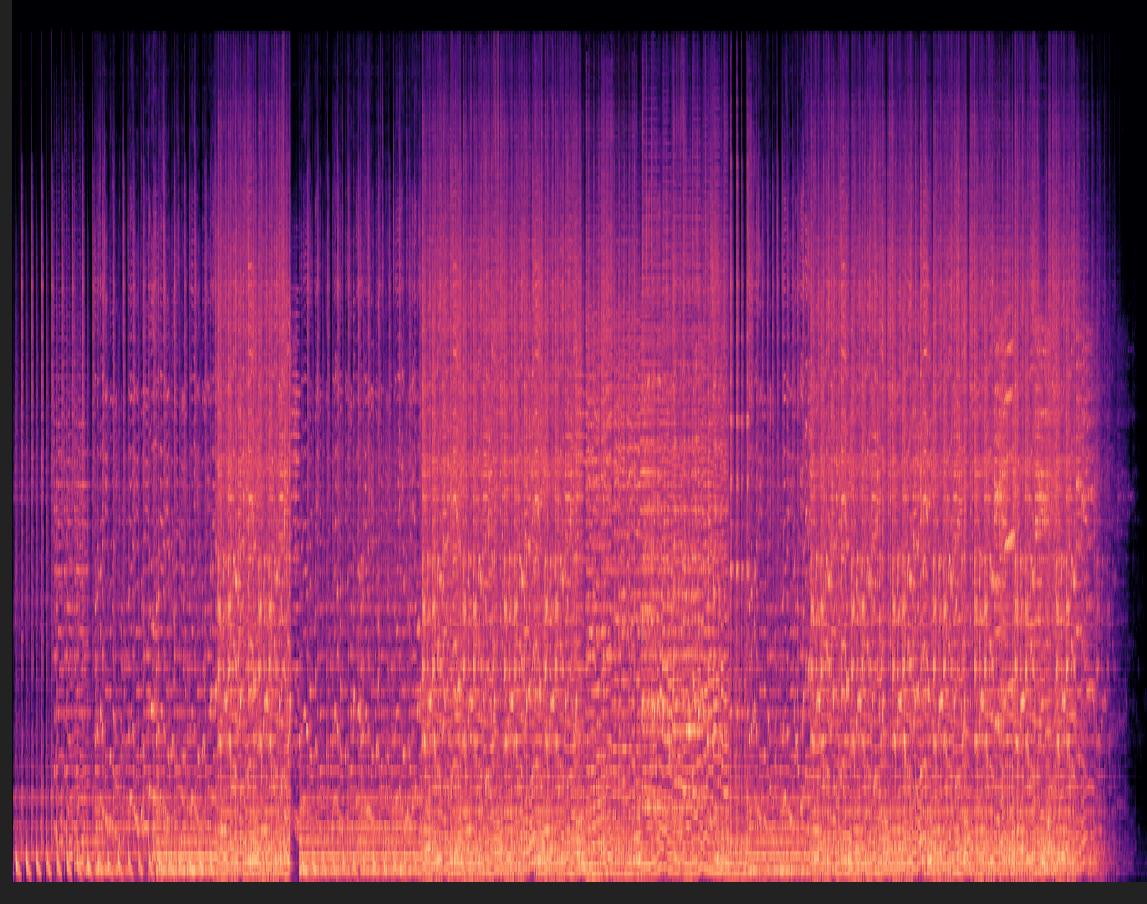
Iron Maiden - Rainmaker



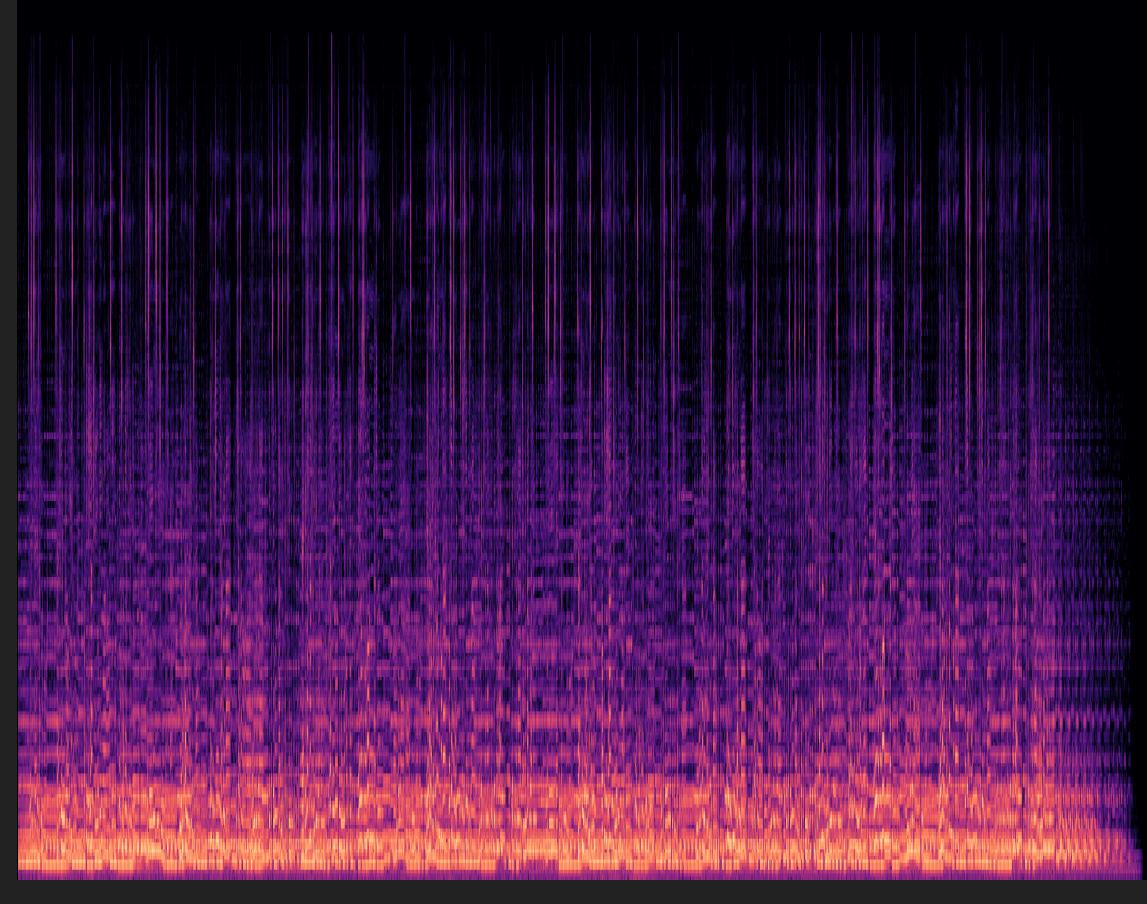
Hanson - MMMBop



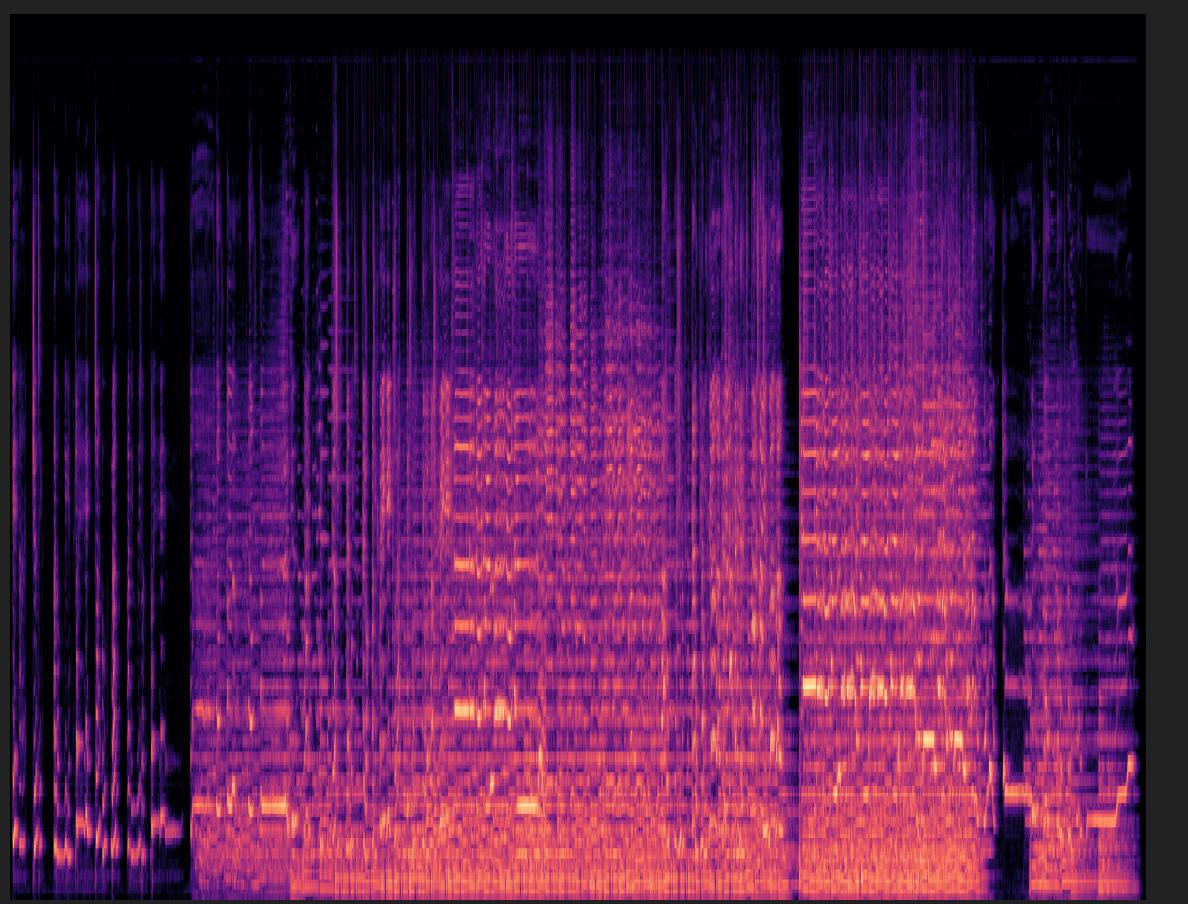
Kansas - Power



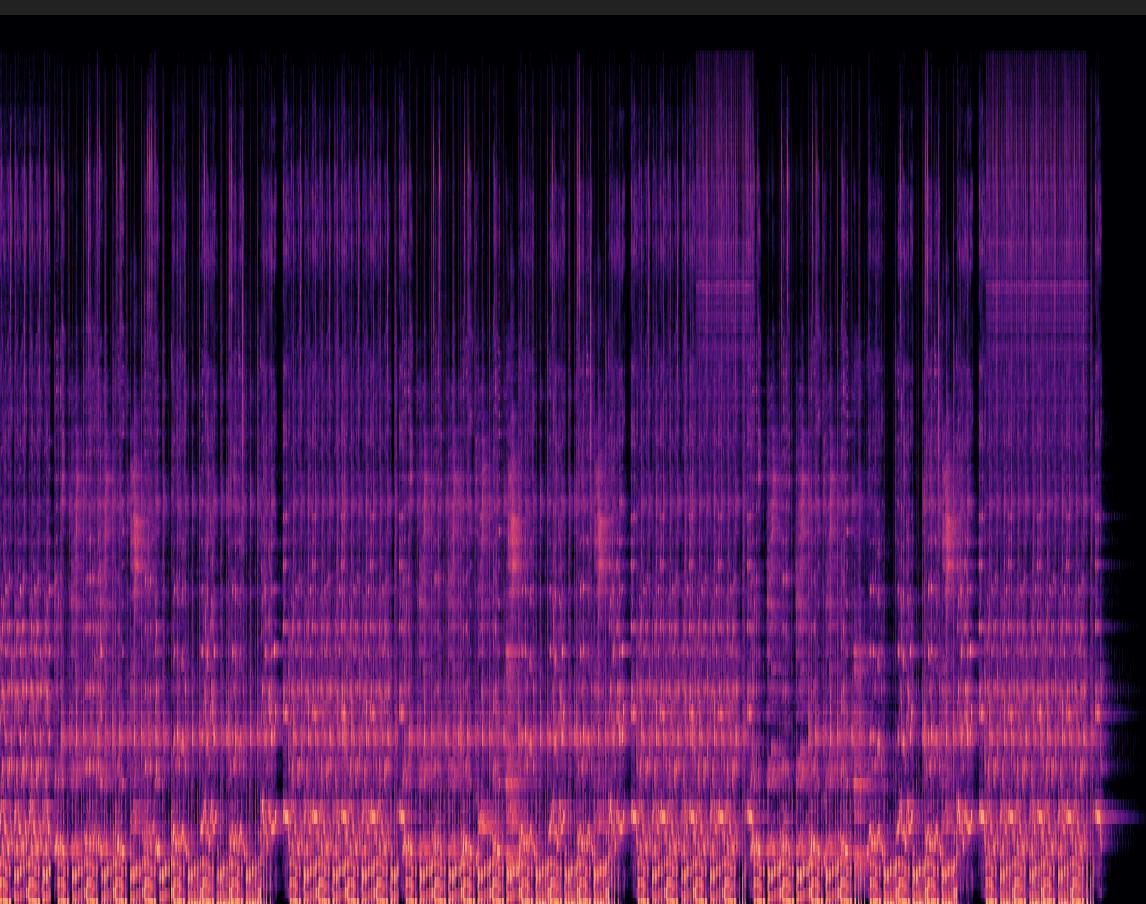
João Gilberto - Desafinado



Whitney Houston - I Will Always Love You



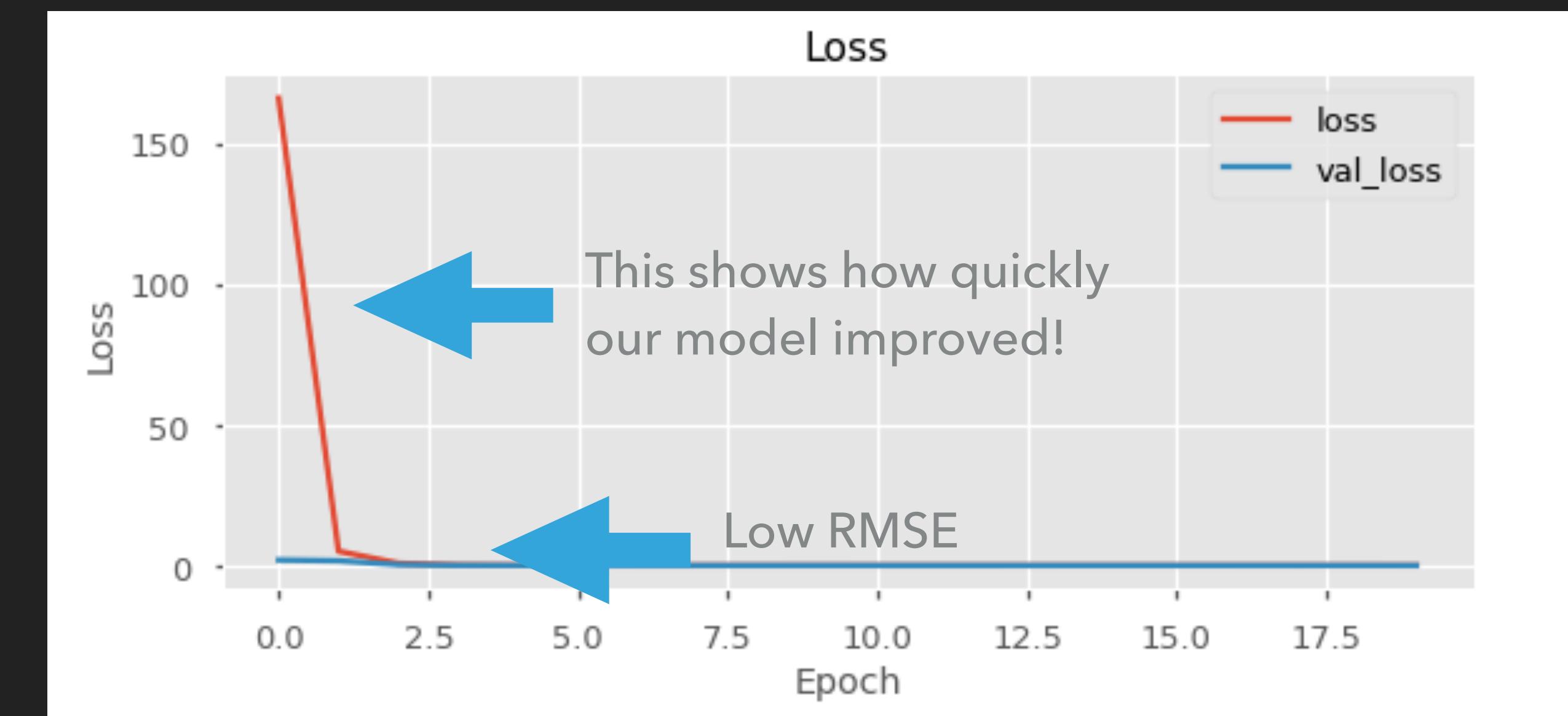
Kiiara - Gold



RESULTS & CONCLUSIONS

ALL MODELS PERFORMED WELL, BUT THE BEST WAS EXCEPTIONAL

- ▶ Model 3's RMSE (root mean squared error) shows it will be a strong predictor of "danceability" of songs
- ▶ loss (RMSE): 0.0214 (predicts within 0.02 of actual danceability out of 10)
- ▶ val_loss: 0.0183 (validation RMSE)



BUILD MODELS FOR REMAINING METRICS AND APPLY TO DISCO DUO

► Train and test models for remaining metrics:

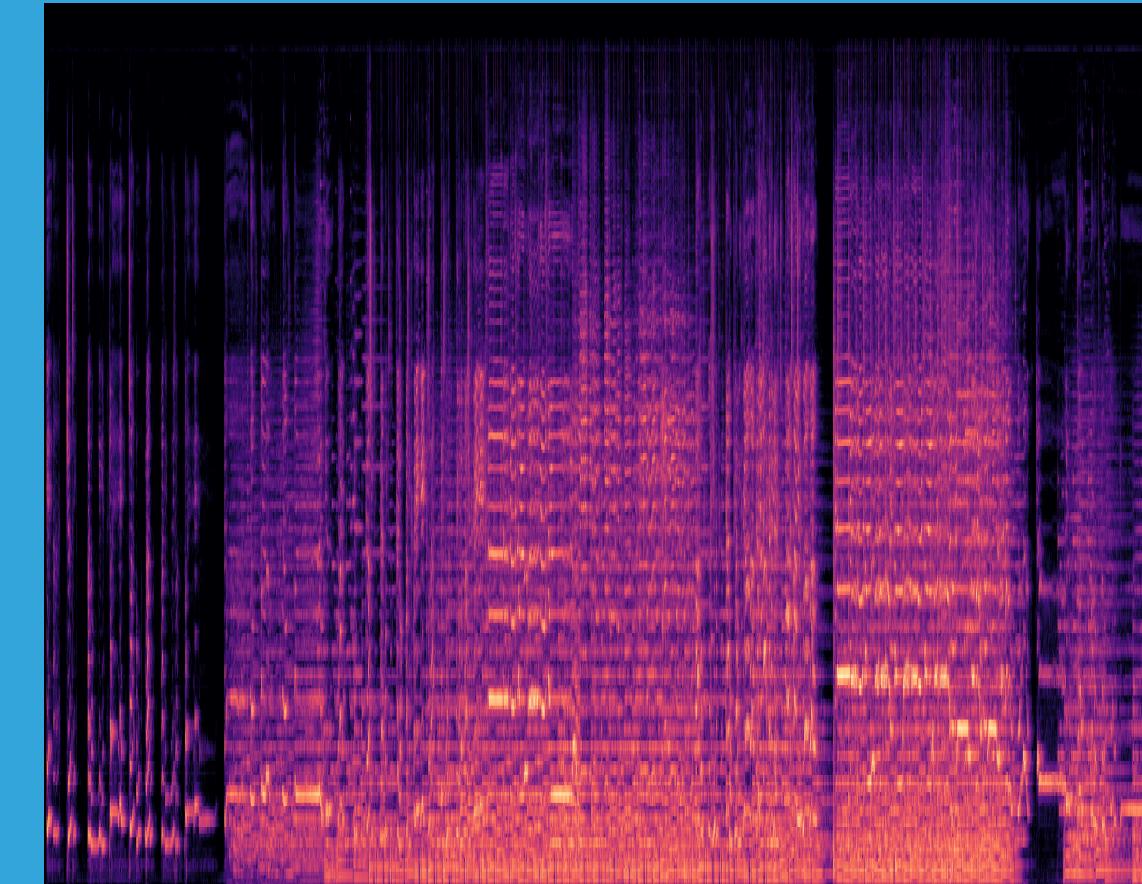
1. Energy
2. Speechiness
3. Acousticness
4. Instrumentalness
5. Liveness
6. Valence

EXPAND ON WAYS TO USE DISCO DUO

- ▶ Reframe “dating” with “Disco Dates”
 - Example: “How did you meet?” “On a ‘disco date’” - does not need to be romantic, but it will be fun
- ▶ Games
 - Silent Disco concept where pairs need guess what their partners are listening to or predict what the next song will be based on a few options

THANK YOU.
WE LOVE YOU
LIKE WHITNEY.

Whitney Houston - I Will Always Love You



Disco Duo Team