rephrase

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Is it possible to determine the topic of a song based only on how it sounds?

Objective:

Use music with lyrics to determine the topic of music without lyrics
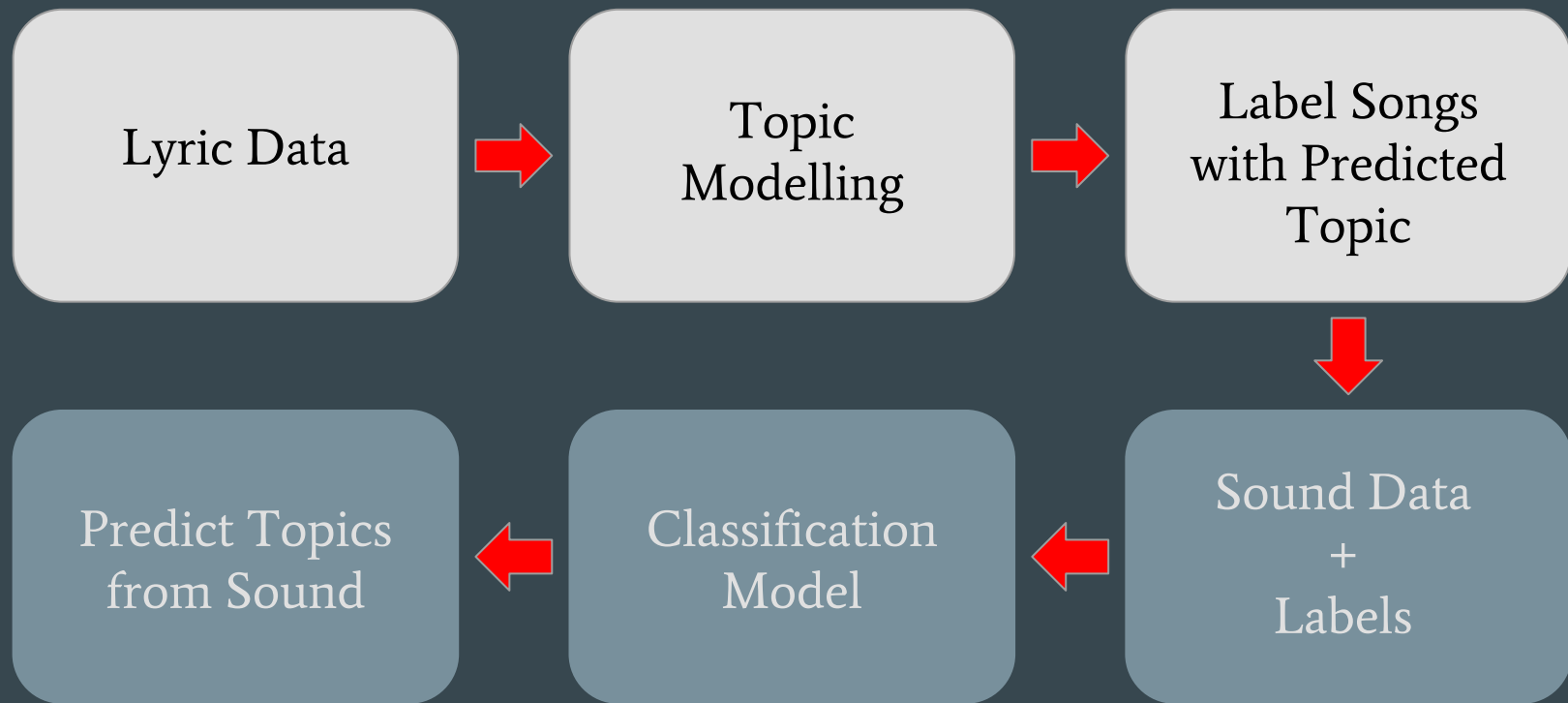
The Data

Million Song Dataset

Collection of audio features for a million modern songs

musiXmatch Dataset

Lyrics for 237,000 tracks in the Million Song Dataset
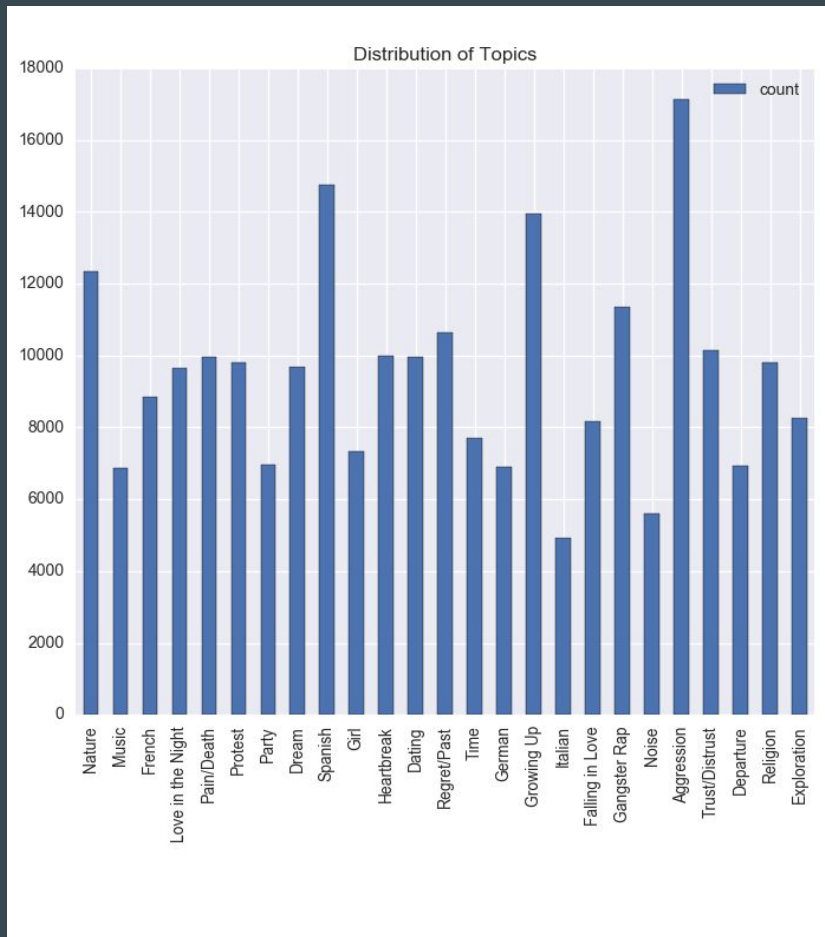
Top 5000 words in bag-of-words format

Pipeline

Topic Modelling:
Latent Dirichlet Allocation

Sample Topics:

- Religion Topic : God, Lord, Heaven, Jesus, Life, Angel

- Aggression Topic : Burn, Death, Blood, Kill, Dead, Pain

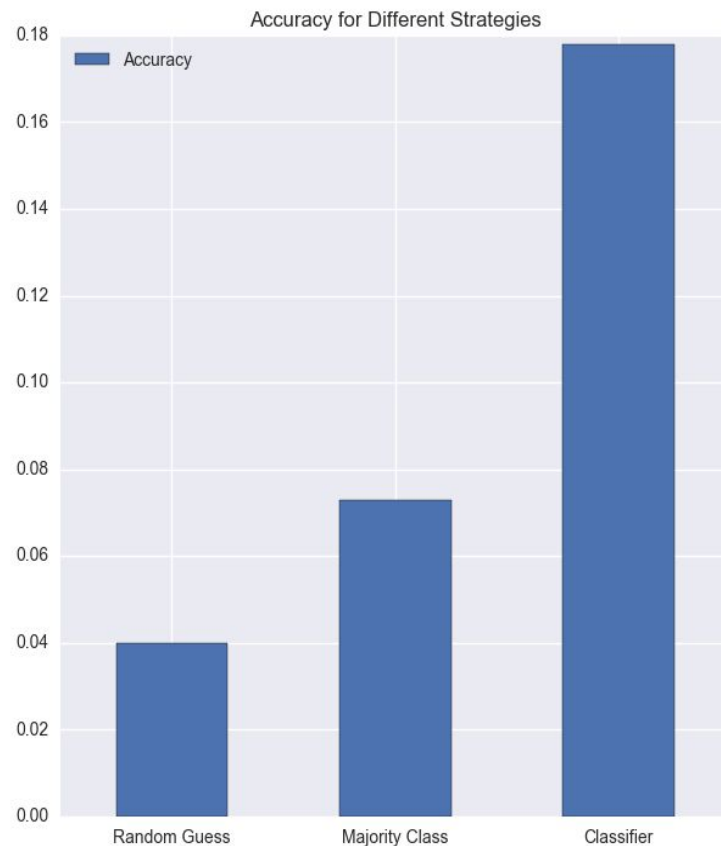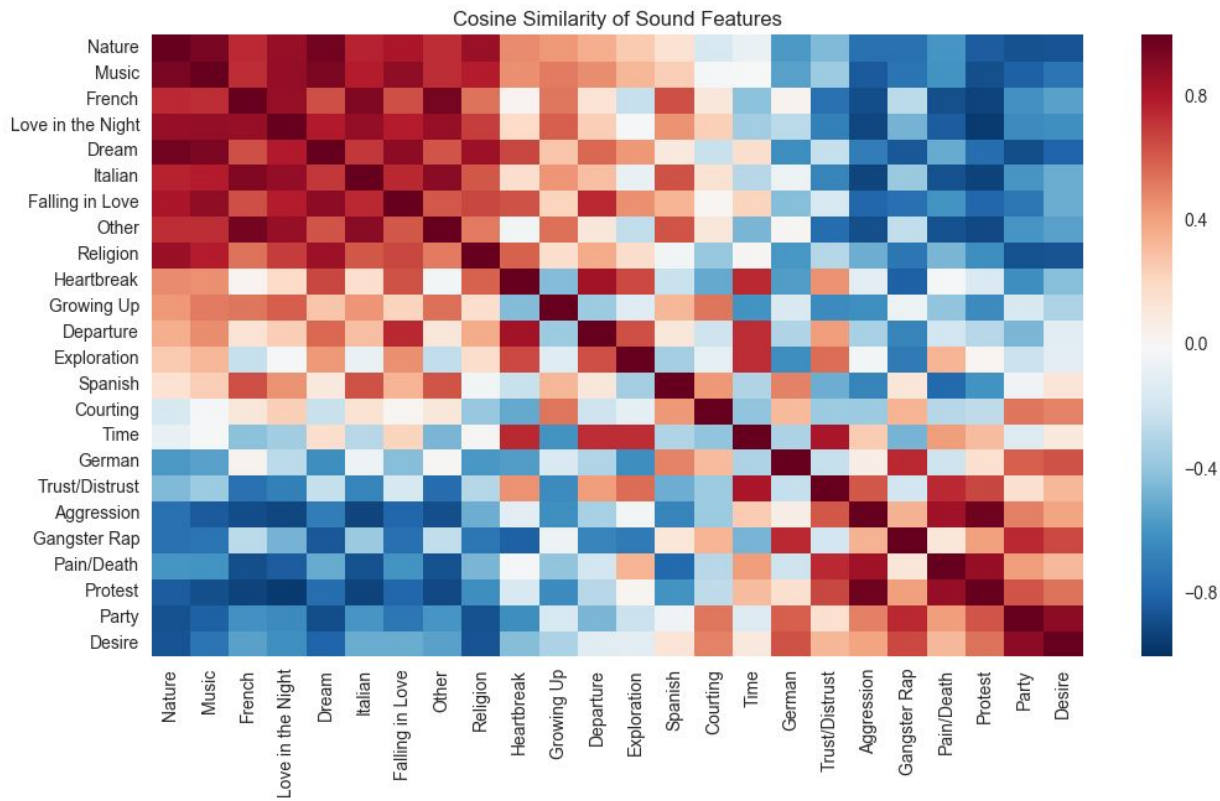- Heartbreak Topic : Heart, Love, Feel, Cry, Pain, Broken

Distribution of Topics

Gradient Boosting Classifier

Sound Features

- Tempo
- Key
- Pitch
- Timbre
- Loudness
- Duration
- Time Signature

Test Accuracy : 17.8%

Sound Similarity

Cosine Similarity of Sound Features

Conclusions

Can we determine the topic of a song from sound alone?

. . . Maybe

What next?

Handling language "topics"

Alternative methods to assign songs into groups

Reversing the problem

Thank you!

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