Module 4 Project

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The fourth industrial revolution is in full effect, and companies, particularly in the music business, need to prepare a new set of strategies if they are to adapt and take full advantage of AI's wave of change.

~ Ashley Rose, Entrepreneur.com, 2019

Top Music Streaming Services

Target Audience

Problem Definition

Why do we need context-aware music recommender systems?

Record companies are estimated to invest $4.5 billion annually worldwide in A&R targeted marketing

On-demand streams in the US for 2018 hit a record high of 534.6 billion total streams (up 42% from 2017).

Help the fan find the best music possible for their specific taste and interest.

Make recommendation and search results smarter because listeners have limited time for music consumption

Project Methodology

Obtain & Scrub

- Clean, reduce and combine three datasets together
- Create an MVP dataset

Model

- Train/Test split
- Fit the model
- Confusion matrix
- Classification report
- Cross validation
- Neural network

Weeks 1-3 | **Week 4**

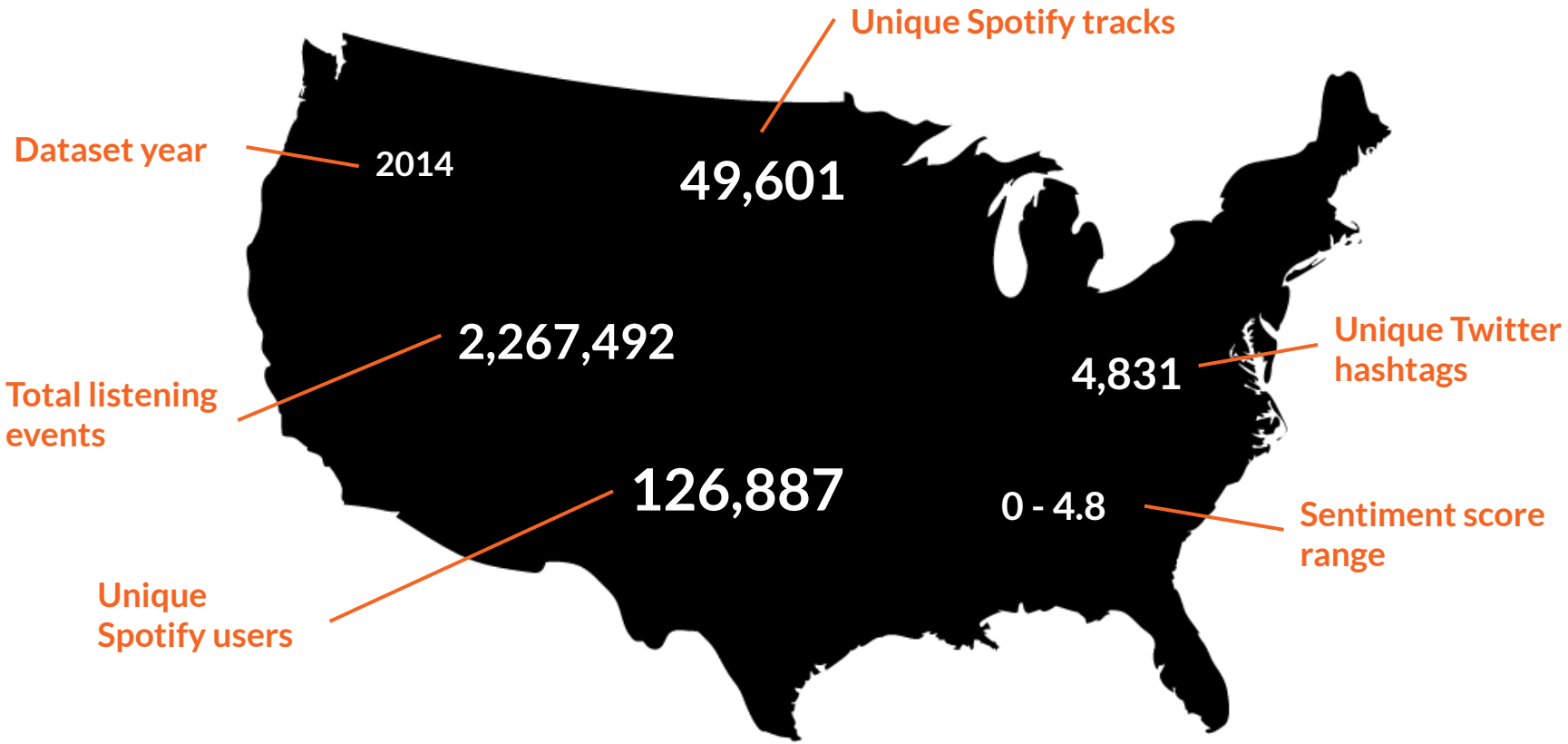
Explore

- Check for multicollinearity
- Logistic regression
- Upsample data

Interpret

Sequential neural networks are great at predicting context-aware music recommender systems

About the Data



Top Hashtags

By Sentiment Score

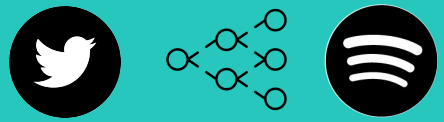
1	thriller	4.8
2	harmonicalove	4.7
3	well	3.9
4	richardmarx	3.6
5	richmond	3.6
6	loversrock	3.4
7	cozypowell	3.4
8	impressionnance	3.3
9	preciousgrace	3.2
10	greatsongforagreatday	3.2

By Count/Frequency

1	nowplaying	4,870,436
2	kiss92	56,437
3	postpunk	25,299
4	punk	24,730
5	deathrock	24,699
6	urbantraxxradio	23,867
7	tophits	22,836
8	craveradio	9,735
9	rock	9,483
10	stonerrock	42,97

Based on #hashtag and time zone we can use deep learning to predict the next Spotify song you want to listen to!

My model predicts with **100%** accuracy.



Next Step Recommendations

- Continue to optimize the neural network so it can predict the next song in **less than 85 seconds**.
- Use current Spotify and Twitter datasets (from 2018+) that includes **likes/dislikes** of songs to determine how additional user context-aware information influences the deep learning, classification model.
- Under a different use case (using current Spotify & Twitter datasets) build a deep learning, classification model based on recommending **new music** to a user based on their mood, likes/dislikes, and previous listening history.

THANK YOU

References

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- Wilson, J. (2019, July 11). The Best Online Music Streaming Services for 2019. https://www.pcmag.com/roundup/260966/the-best-online-music-streaming-services