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 fans **find the best music** possible for their specific taste and interest.

Make recommendations 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**

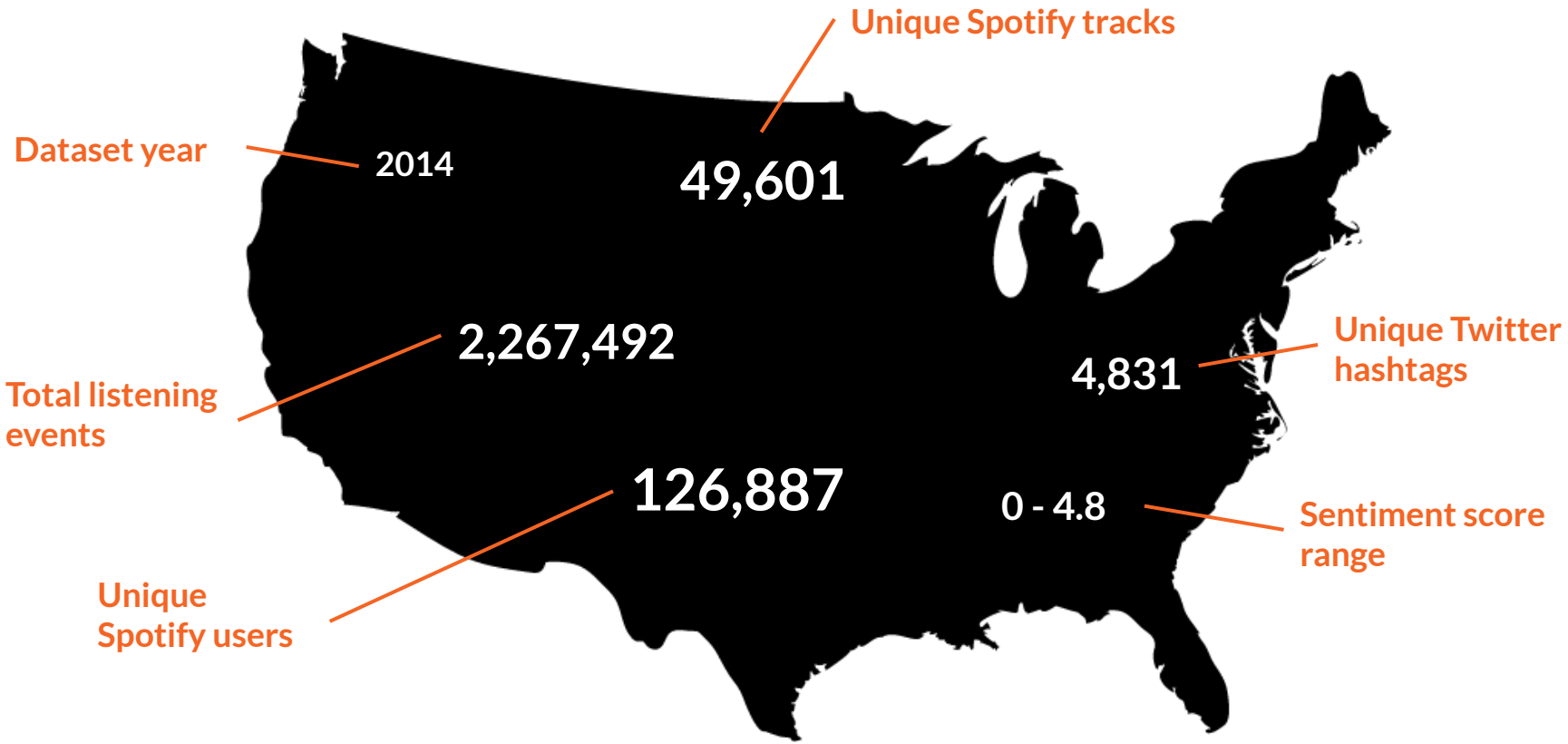
Explore

- 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

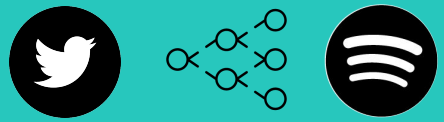
1	thriller	4.8
2	harmonicalove	4.7
3	well	3.9
4	richardmarx	3.6
5	richmond	3.6
6	loversrock	3.4
7	cozypowell	3.4
8	impressionnance	3.3
9	preciousgrace	3.2
10	greatsongforagreatday	3.2

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!

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



Recommendations

Even though the neural network predicts the next song in 85 seconds with 100% accuracy, I recommend using a **supervised model** for on-demand, music streaming service that can make a prediction in **2 seconds with 99% accuracy.**

Next Step / Additional Research

- 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