

Public Music Radio Stations and New Releases

Background

Determine how many plays a new release will get on a given radio station based on features like record label, genre, etc.

<http://wncw.org/playlist-search>

Data Ingestion

<https://api.composer.nprstations.org/v1/widget>

Use the NPR API to pull playlist information for local NPR stations across the country. Bellow is a sample playlist widget from WNCW in North Carolina showing the tracks played on June 15, 2018. Gather information on track, artist, record label, release date, genre. Use flask application to stream into backend AWS database. Gather list of all new track releases from Google Music API, Spotify or Music review sites. Also gather historical information of total track plays of past singles from Spotify APIs.

All Programs

Search Playlist...

2018-06-15

X


Select Time

GO

Buy on [iTunes](#)

ARC OVERNIGHT

12:01am 06/15/2018 [ARC Overnight](#)



Rue de Lis


ARTIST: The Essex Green

ALBUM: Cannibal Sea

LABEL: © 2006 Merge Records

Buy on [iTunes](#)

12:04am 06/15/2018 [ARC Overnight](#)



I Think I'm In Love

ARTIST: Spiritualized

ALBUM: Ladies and Gentlemen We Are Floating In Space (Deluxe Version)

LABEL: © 1997 Dedicated Limited. Dedicated Limited is wholly owned by Sony Music Entertainment UK Limited

Buy on [iTunes](#)

NPR Composer API

abc123

ssh-secret

Enter access token

Enter token secret

Explore

/account	Show/Hide	List Operations	Expand Operations	Raw
/batch	Show/Hide	List Operations	Expand Operations	Raw
/changelog	Show/Hide	List Operations	Expand Operations	Raw
/widget	Show/Hide	List Operations	Expand Operations	Raw
/ucs	Show/Hide	List Operations	Expand Operations	Raw
/program	Show/Hide	List Operations	Expand Operations	Raw
/episode	Show/Hide	List Operations	Expand Operations	Raw
/auth	Show/Hide	List Operations	Expand Operations	Raw
/consumer	Show/Hide	List Operations	Expand Operations	Raw
/job	Show/Hide	List Operations	Expand Operations	Raw
/util	Show/Hide	List Operations	Expand Operations	Raw
/songs	Show/Hide	List Operations	Expand Operations	Raw

```
{
  '_duration': 195200,
  '_id': '98ec74258a3de66dc5898a62ce85150',
  '_start_time': '06-15-2018 00:01:00',
  'artistId': 4458442,
  'artistName': 'The Essex Green',
  'collectionCensoredName': 'Cannibal Sea',
  'collectionExplicitness': 'notExplicit',
  'collectionId': 122147533,
  'collectionName': 'Cannibal Sea',
  'collectionPrice': 9.99,
  'copyright': '© 2006 Merge Records',
  'country': 'USA',
  'discCount': 1,
  'discNumber': 1,
  'kind': 'song',
  'primaryGenreName': 'Alternative',
  'releaseDate': '2006-03-21T08:00:00Z',
  'trackCensoredName': 'Rue de Lis',
  'trackCount': 12,
  'trackExplicitness': 'notExplicit',
  'trackId': 122147607,
  'trackName': 'Rue de Lis',
  'trackNumber': 5,
  'trackPrice': 0.99,
  'trackTimeMillis': 195200,
  'trackViewUrl': 'https://itunes.apple.com/us/album/rue-de-lis/122147533?i=122147607&uo=4',
  'wrapperType': 'track'
}
```

Wrangling

Calculate fields for age of track (play date - release date), play count, and % of total plays from label

Computation & Analysis

Analyze data to determine the record label that has the most plays for each local NPR station.

Modeling and Application

Feature selection: # of AM/PM plays, age of song, # of new releases for record label in past 30 days, % genres, artist diversification score (# of unique songs from record label / # of unique artists from record label), playlist/programming type, holidays/seasonality. Use elastic net to determine if we should use Lasso or Ridge. Most likely will use Ridge since features are dense.

Visualization & Reporting

Path of a new album over 30 day period actual vs predicted

