

Artificial reviews generation on Spotify albums

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Summary

- > PyReviewer presentation
- > Data collection
- > Model architecture
- > Results

PyReviewer pipeline

Generate automatic reviews on Spotify albums

Meaningful text

- Train a RNN on albums critics and generate new text based on albums critics style
- The training database needs to be large enough in order to generate meaningful text



Similar reviews

- Find similar albums to generate a new album review
- Using album features, create clusters of albums to generate an appropriate review



Automatic critics generation

Automate content creation whenever a new album is released

Data collection

Pitchfork Dataset



General features:

- Title
- Artist
- Score
- Publication date
- Best_new_music (binary)
- Author
- Genre
- Content review

Review example:

"You can hear flashes of that mournful romantic alienation in James Blake, the graceful, emotional abrasion in FKA twigs, ..."

Spotify API



Audio features:

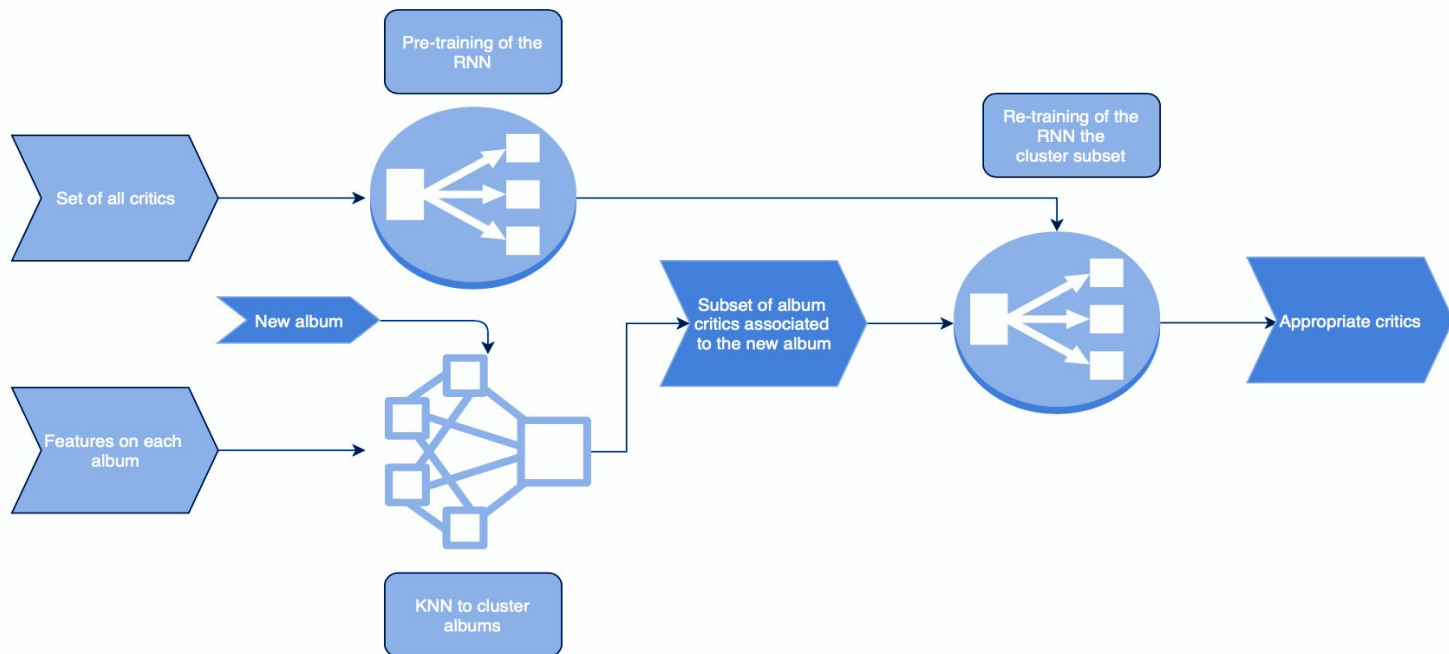
- Acoustic
- Danceability
- Energy
- Instrumentality
- Loudness
- Tempo
- Popularity

Reference:

<https://developer.spotify.com/documentation/web-api/reference/tracks>

Model architecture

A two-steps algorithm

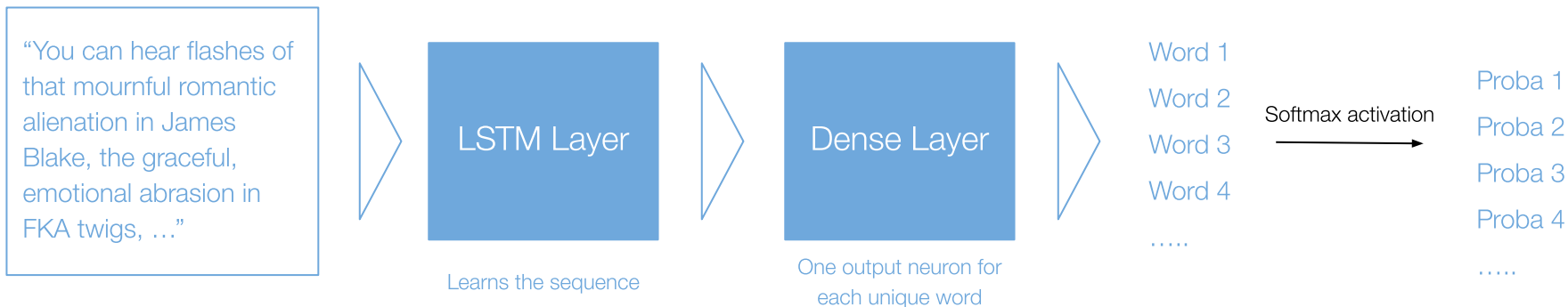


Step 1 - Creating a meaningful text generator

Pre-training of the RNN on all the reviews

Optimizer: Adam

Loss: Categorical cross-entropy



Output example:

"I think of a lot of his 81-year-old is that the band of a more than that he does to be the album that the band's seventh of its best production. Pop is a few years on their debut, is an instrumental that the band for a bit more metal of their own. is a lot like an upward-spiraling and then there's the album on his best example that he tries in his career, of his career."

Step 2 - Clustering and predicting

1

Build a KNN clustering algorithm on features such as the type of music, the popularity, the age, ...

2

For a given new album, find its nearest neighbors thanks to the KNN clustering algorithm

3

Retrain the RNN on the album reviews of the k nearest neighbors

4

Output the generated review of the new album

Results

```
{  
  "title": "victimizer",  
  "artist": "mikkel metal",  
  "score": 7.1,  
  "best_new_music": 0,  
  "author": "jess harvell",  
  "pub_date": "2006-03-09",  
  "genre": "electronic",  
  "label": "kompakt",  
  "accousticness": 0.172772,  
  "danceability": 0.7635,  
  "energy": 0.4329,  
  "instrumental": 0.8266,  
  "liveness": 0.13349,  
  "loudness": 13.4976,  
  "speechiness": 0.05689,  
  "tempo": 113.605,  
  "valence": 0.42124,  
  "popularity": 2.1  
}
```

"The most important Corgan a lot with its way to be catchy, In the first few harmonically narrowly scenes with his best porno mag, but a more vibrant moment on a bit more of her music for an entire wispy, blue-eyed he the music that the first two the first few years.

The band's album is loud an undead detail ensures the album together.

These tightly-wound songs that bombshell, which it explores you didn't hear all the album's most impressive are an instrumental."