Podcast Prophet

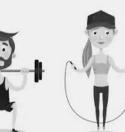
Predict podcast rating, provide suggestions based on the podcast reviews

Ziying Feng

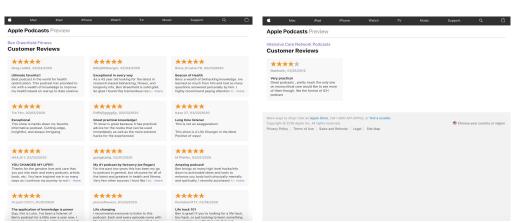


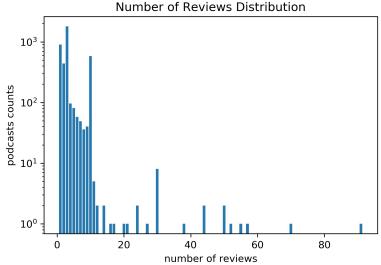






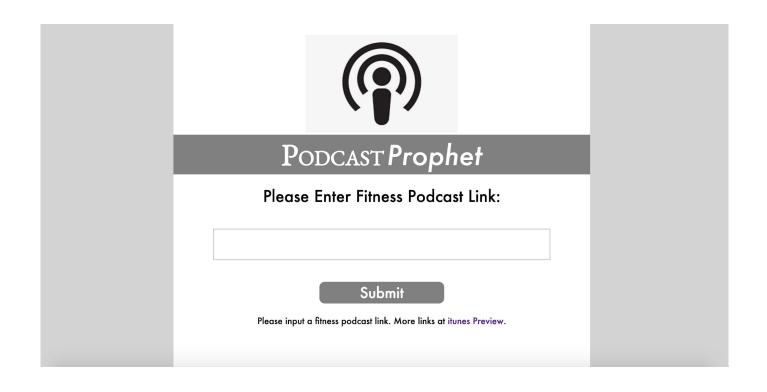
Problem



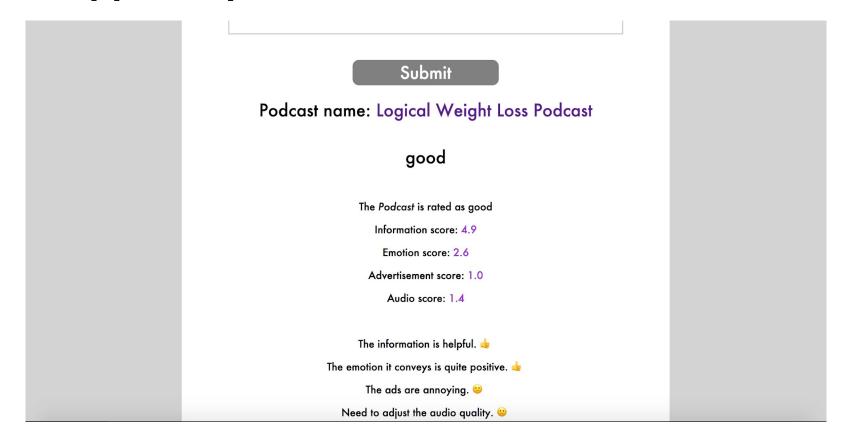


- Among 10k+ fitness and health podcasts, 4115 podcasts have reviews
- Listeners: if it has one review, how to know if it is a good podcast to listen to?
- Creators: how can I get more people to listen to my podcasts?

Web app



Web app - output







Scraped 10k Fitness Podcasts from iTunes

Apple Podcasts Preview

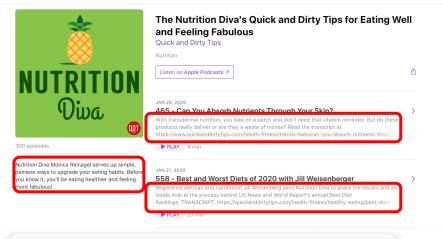
Review Categorization

Sentiment Analysis

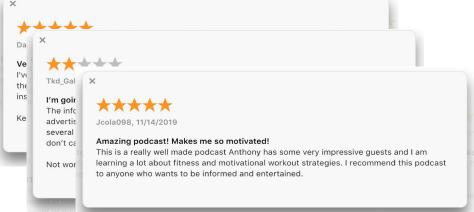
Description
Vectorization

Prediction

Description



Review



Review Categorization

Sentiment Analysis

Description Vectorization

Prediction

Information

knowledge data news intelligence insight

Emotion

inspiring feeling delight disappoint unhappy

Advertisement

advertisement promotion sponsor product brochure

Audio

audio sound voice acoustic frequency

Cosine Similarity SpaCy

Review Categorization

Sentiment Analysis

Description Vectorization

Prediction

Information

knowledge data news intelligence insight

.

Emotion

inspiring feeling delight disappoint unhappy

Advertisement

advertisement promotion sponsor product brochure

Audio

audio sound voice acoustic frequency

Cosine Similarity SpaCy

Review Categorization

Sentiment Analysis

Description Vectorization

Prediction

Information

knowledge data news intelligence insight

.

Emotion

inspiring feeling delight disappoint unhappy

Advertisement

advertisement promotion sponsor product brochure

Audio

audio sound voice acoustic frequency

Cosine Similarity SpaCy

Review Categorization

Sentiment Analysis

Description Vectorization

Prediction

Information

knowledge data news intelligence insight

.

Emotion

inspiring feeling delight disappoint unhappy

Advertisement

advertisement promotion sponsor product brochure

Audio

audio sound voice acoustic frequency

Cosine Similarity SpaCy

Review Categorization

Sentiment Analysis

Description Vectorization

Prediction

Information

knowledge data news intelligence insight

.

Emotion

inspiring feeling delight disappoint unhappy

Advertisement

advertisement promotion sponsor product brochure

Audio

audio sound voice acoustic frequency

Cosine Similarity SpaCy

vaderSentiment

[Information, Emotion, Advertisement, Audio]

Review
Categorizatior

"Very informative and gained some new insights that will help me take my workout to the next level."

Sentiment Analysis

Description Vectorization

Predictior

[1.67, Emotion, Advertisement, Audio]

vaderSentiment

[Information, Emotion, Advertisement, Audio]

Review Categorization

"Very informative and gained some new insights that will help me take my workout to the next level."

Sentiment Analysis

"Makes me so motivated!"

[1.67, 1.58, Advertisement, Audio

Description Vectorization

Predictior

vaderSentiment

[Information, Emotion, Advertisement, Audio]

Review Categorization

"Very informative and gained some new insights that will help me take my workout to the next level."

Sentiment Analysis

"Makes me so motivated!"

Description Vectorization "But the **advertisements** are **annoying**, they **interrupt** already brief podcasts."

[1.67, 1.58, -0.70, Audio]

Predictior

vaderSentiment

Information, Emotion, Advertisement, Audio

Review Categorization

"Very informative and gained some new insights that will help me take my workout to the next level."

Sentiment Analysis

"Makes me so motivated!"

Description Vectorization

"But the **advertisements** are **annoying**, they **interrupt** already brief podcasts."

Prediction

"It has a **fantastic** and **enormous** variety of **sounds** and **speeds**."

[1.67, 1.58, -0.70, 0.90

Review Categorization

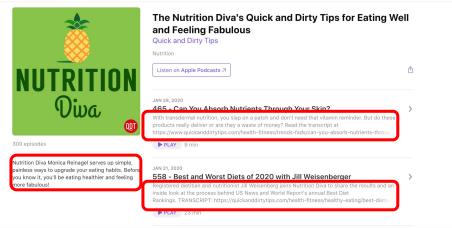
Sentiment Analysis

Vectorization

Predictior

Apple Podcasts Preview

Description



- TF-IDF vectorize descriptions
- Concatenate with the sentiment vector

Description TF-IDF Vector +
Review Sentiment Vector

Review Categorization

Sentiment Analysis

Vectorization

Prediction

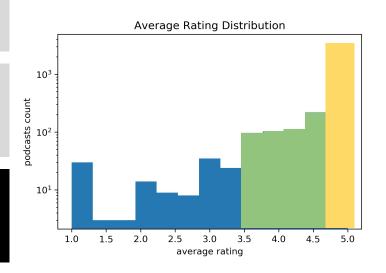
Random Forest Classification

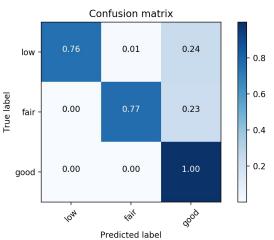
Low: **0** < average_rating <= **3.5** (136 samples)

Fair: **3.5** < average_rating <= **4.8** (658 samples)

Good: **4.8** < average_rating <= **5.0** (3321 samples)

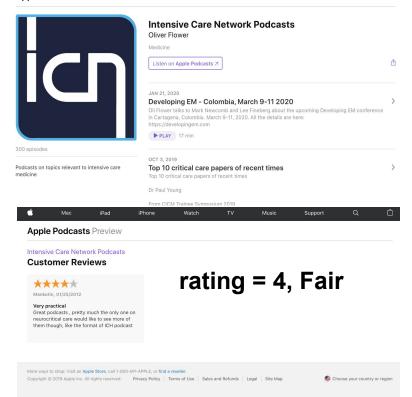
Train and validate the weighted model on samples that have >=2 reviews, accuracy **84**%





How it works?

Apple Podcasts Preview



Podcast Prophet

Please Enter Fitness Podcast Link:

Submit

Podcast name: Intensive Care Network Podcasts

good

The Podcast is rated as good

Information score: 0.0

Emotion score: 0.9

Advertisement score: 0.0

Audio score: 0.0

Need more helpful information.

Need more positive emotion. ⁽²⁾

Need to adjust the ads. 🙂

Need to adjust the audio quality. 99

Ziying Feng

PhD, Chemistry





