December 12, 2025 DS6021

Music Review Modeling

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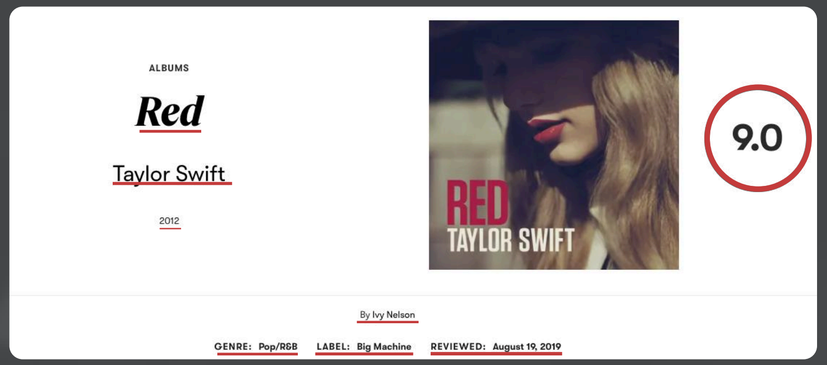
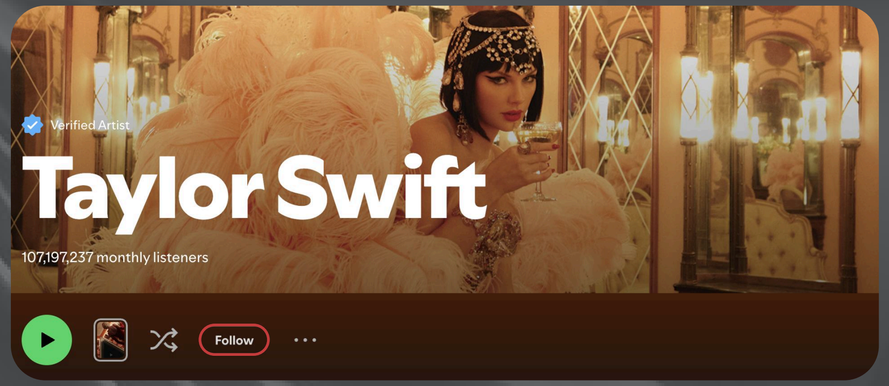
01 — gathering the data

Pitchfork Album reviews:



~ 8,900 reviews, March 2017 to September ‘25

Spotify Artist followers:



~5,200 unique artist follower counts

Numeric variables:

- Review score
- Review release diff.
- Review length
- Album order

Categorical variables:

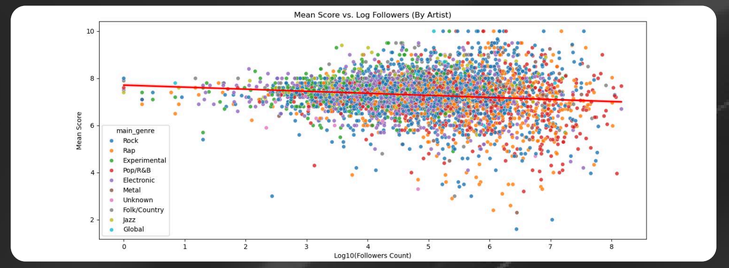
- Artist
- Genre
- Reviewer
- Label

Top artists & genres:

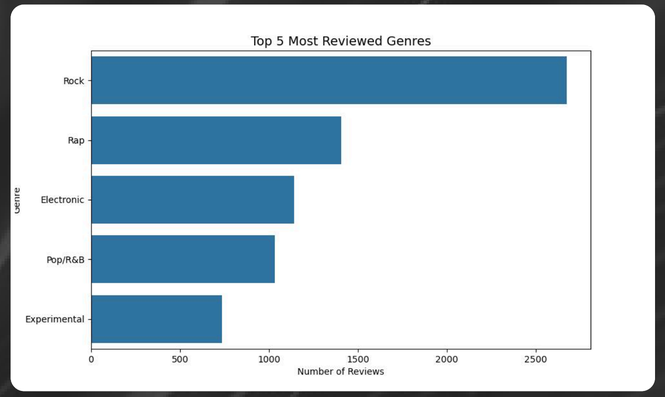
artist	mean	median
Stevie Wonder	9.000000	9.45
Talking Heads	8.983333	8.70
Alice Coltrane	8.950000	8.65
Prince	8.710000	8.60
Bruce Springsteen	8.570000	8.65

main_genre	mean	median
Jazz	7.751839	7.7
Experimental	7.540832	7.6
Metal	7.482000	7.6
Folk/Country	7.472807	7.5
Rock	7.374112	7.4

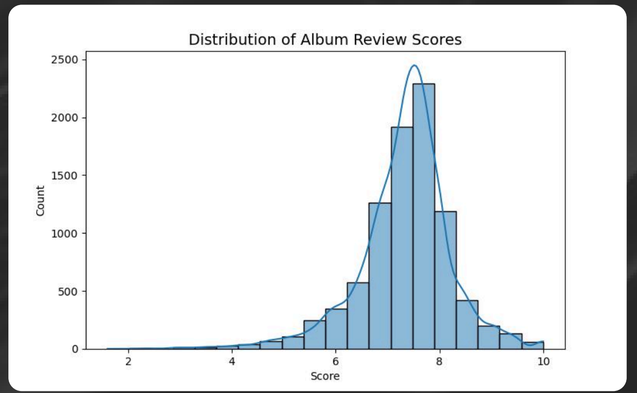
Review Score vs log-followers:



Most reviewed genres:



Album review scores:



02 — supervised models

Elastic net regression:

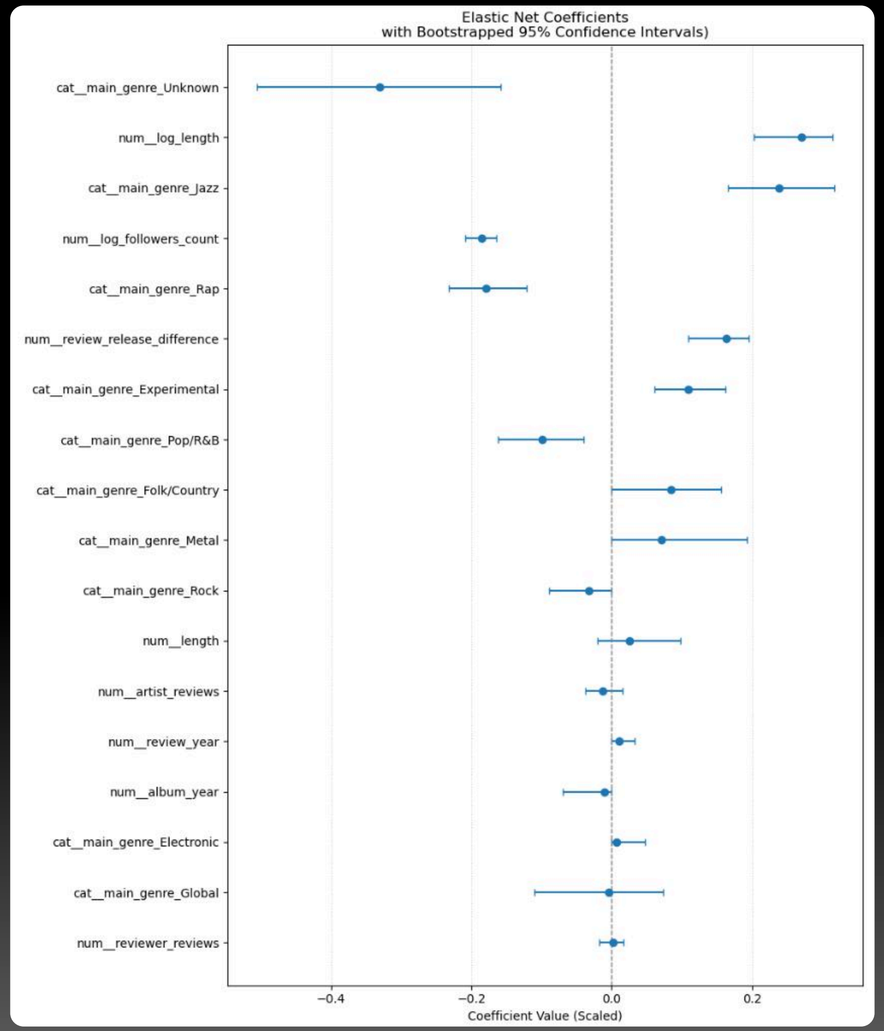
- Included all numeric variables and genre
- Optimal L1 ratio of 0.1
- R^2: 0.25

K Nearest Neighbors:

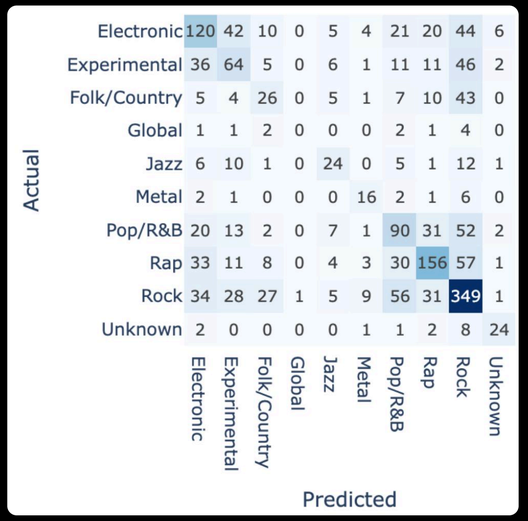
- Predicting Genre from Score, Log of Review Length, and Log of Artist Follower Counts
- Best K = 3

Other supervised models (OLS and polynomial) in dashboard.

Elastic net regression coefficients:



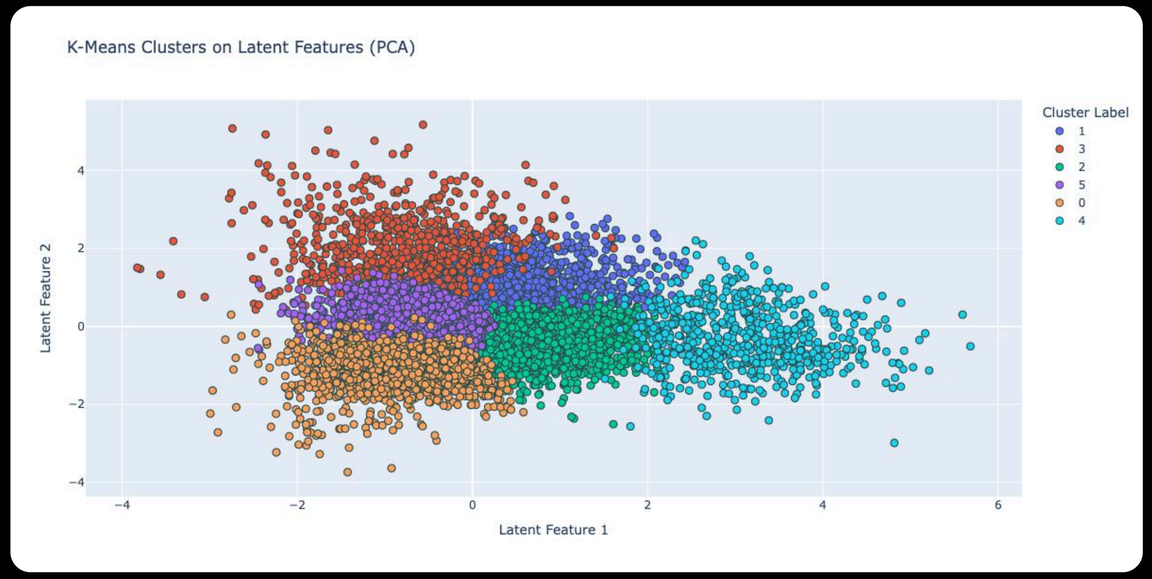
KNN genre prediction:



03 — unsupervised models

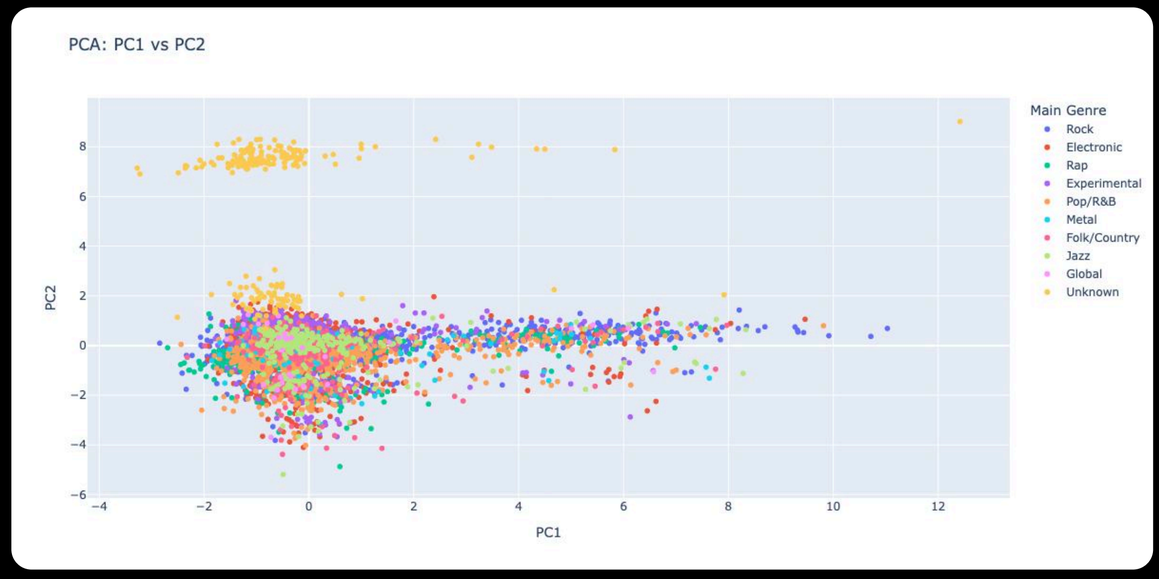
K-means clusters:

- Groups albums into clusters based on similarities in their PCA features
- Toggle in dashboard shows difference between clusters



Principal Component Analysis:

- Collapses variables into latent features
- Album Length, Score, and Review Timing drive most of the variation across Pitchfork reviews



App demo

04 — conclusions

What we learned

- Albums that were reviewed more than a year after their release tended to score better, possibly due to selection bias
- Less mainstream genres had higher average scores (jazz, experimental, metal)
- Artist popularity (Spotify followers) did not positively affect review score
- Longer reviews are associated with higher review scores, potentially reflecting greater reviewer enthusiasm

Questions to explore

- Can we use sentiment analysis of the Pitchfork reviews?
- Did review score change depending on the average score of albums in a given time window around the review date?
- Can we use Spotify indexes (danceability and valence) to predict score?
- Can we use reviewer information to predict the album genre? How does reviewer affect score?

Questions?