



IS PITCHFORK BIASED?

The Data Incubator Capstone Project

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WHAT IS PITCHFORK?

Pitchfork

- **About**
 - Indie music website est. 1996
 - Purchased by Condé Nast in 2015
- **Industry Impact**
 - Album sales
 - Festival Attendance
 - Public opinion
- **Album Reviews**
 - Content
 - Score
 - Best New Music Award
 - “Michelin Star of music”

Accusations of Bias Against...

- **Genres**
 - Favoring experimental genres
- **Artists**
 - Negative view of “mainstream” artists
- **Music Labels**
 - Negative view of major record labels

Research Methodology

1. Classify reviews as above or below average
2. Derive probabilities taking log-likelihood
3. Examine patterns in underlying populations
4. Deploy probabilistic model via app



PUBLICIZED INSTANCES OF PERCEIVED BIAS

Mumford & Sons - *Sigh No More* (2009)

- **Rolling Stone**
- **NME**
- **SPIN**
- **Consequence of Sound**
- **Pitchfork™**



Mumford & Sons
Sigh No More



2.1

Mumford & Sons - *Wilder Mind* (2015)

- **Rolling Stone**
- **NME**
- **SPIN**
- **Consequence of Sound**
- **Pitchfork™**



Mumford & Sons
Wilder Mind



2.0

MUSIC INDUSTRY DATA SOURCES

Spotify:API
+ Artist Followers: 0-2.6bn
+ Artist Popularity: 0-100

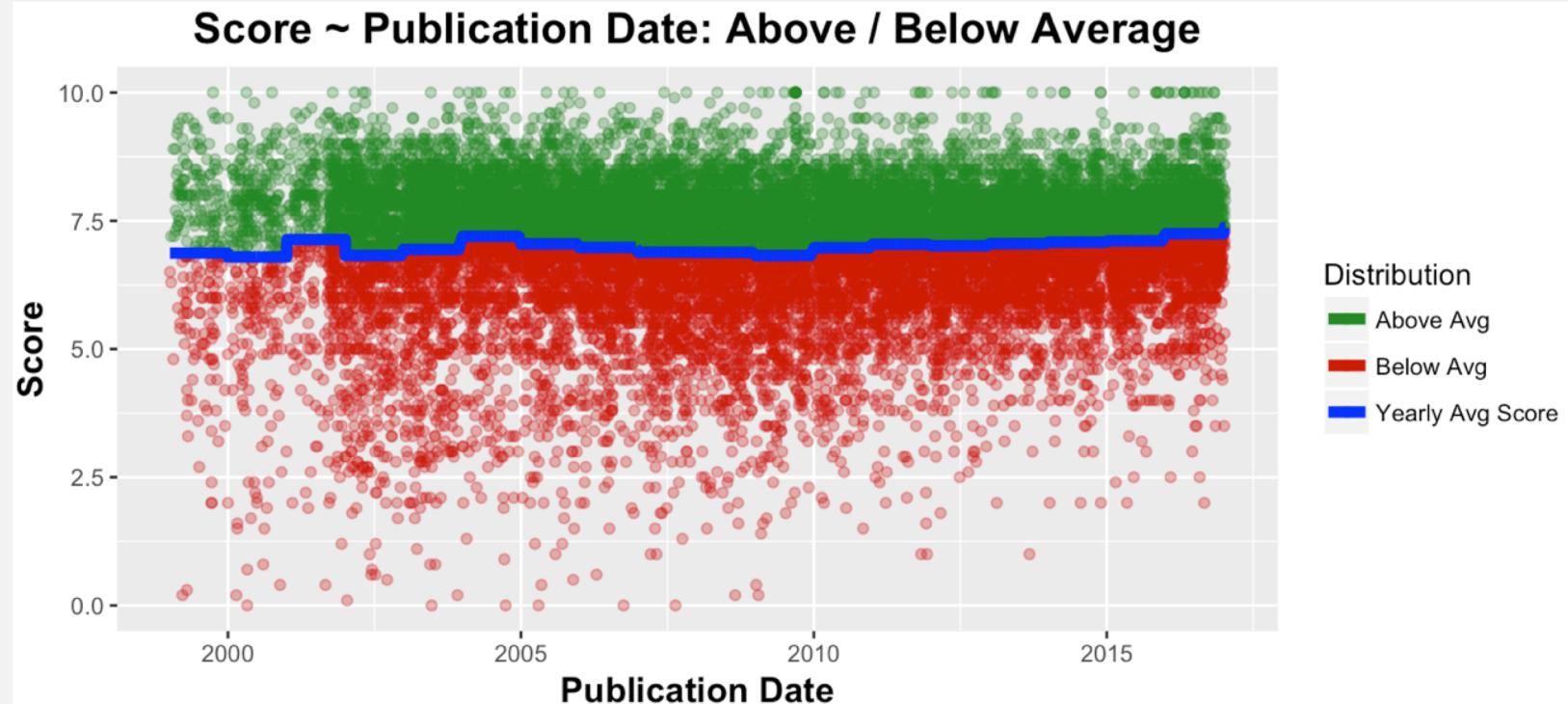
Spotify:API
+ Sub-Genres: 42

Pitchfork: Kaggle

- Reviews: 18,389
- Artists: 8,715
- Review Rating: 0.0-10.0
- Best-New-Music Awards: 943
- Publication Years: 2000-2017
- Record-Labels: 3,234
- Genres: 10
- Review Content
 - Sentiment
 - Subjectivity

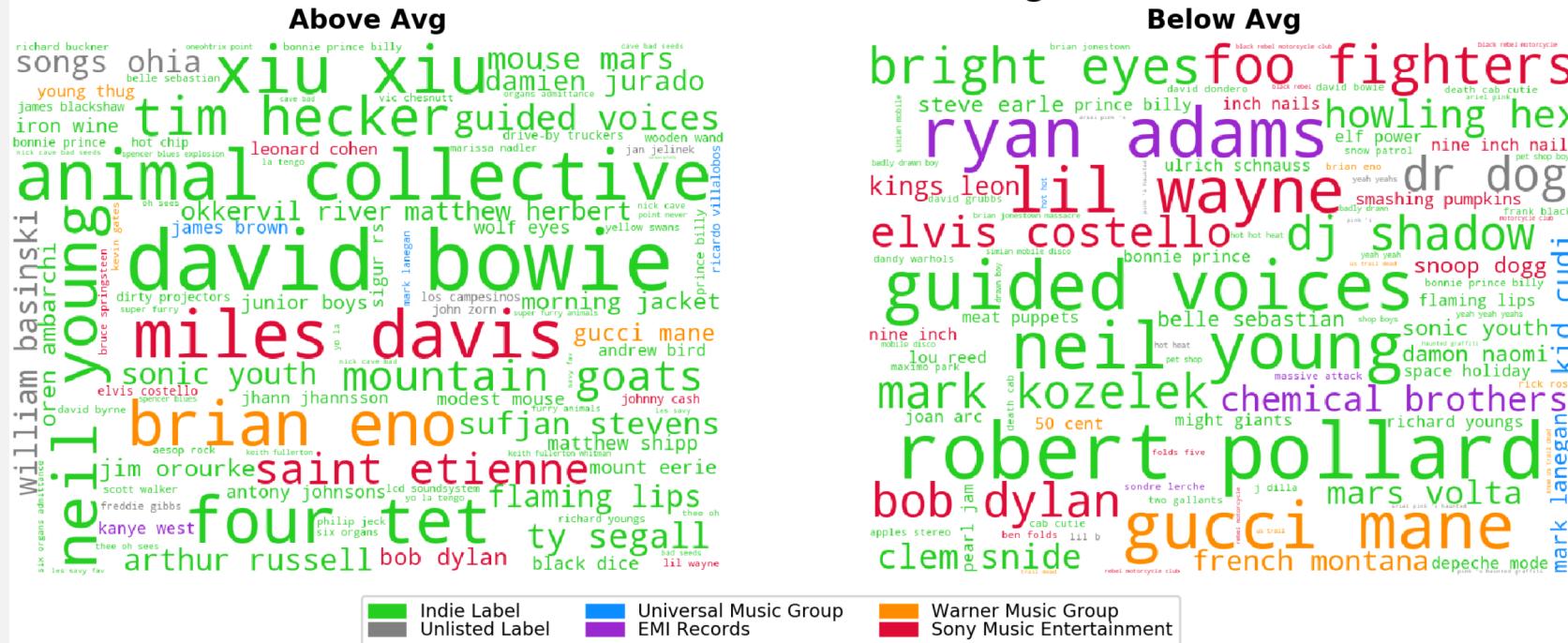
Wikipedia:API
+ Parent-Labels: 5

PITCHFORK: REVIEW SCORE DISTRIBUTION



ARTISTS: ABOVE / BELOW AVERAGE RATING NETTED TERM FREQUENCY

Artist: Above vs. Below Average



LOGISTIC REGRESSION MODEL: COEFFICIENT INTERPRETATION

Genre Bias

- **Genres:**
 - Ex: Experimental
 - 10% higher probability
- **Sub-Genres:**
 - Ex: Freak Folk
 - 15% higher probability
 - Ex: Indietronica
 - 10% lower probability

Artist Bias

- **New Artists** (artists with < 3 albums):
 - 6% lower probability
- **Spotify Popularity:**
 - +30 points = 4% lower probability

Label Bias

- **Parent Label(s):**
 - Warner Music, EMI Records, Universal Music
 - 10% lower probability

+ Reviewer Bias

- **Legacy reviews** (reviews of albums > 2 years old):
 - 19% higher probability
- **Average Word Length:**
 - +25% increase in word length = 5% higher probability



LOGISTIC REGRESSION MODEL: ARTIST PREDICTION



Animal Collective

		Probability Adj.
• Spotify Followers:	282,632	-
• Spotify Popularity:	57/100	-3%
• Genre:	Rock	-4%
• Sub-Genres:	Art Pop, Chillwave	+30%
• Label:	Indie	-

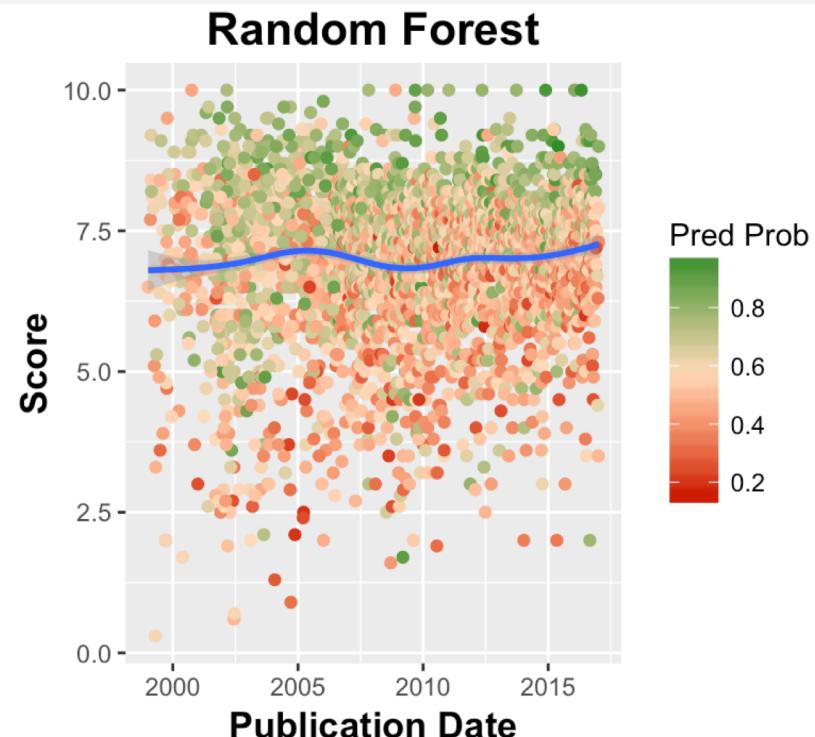
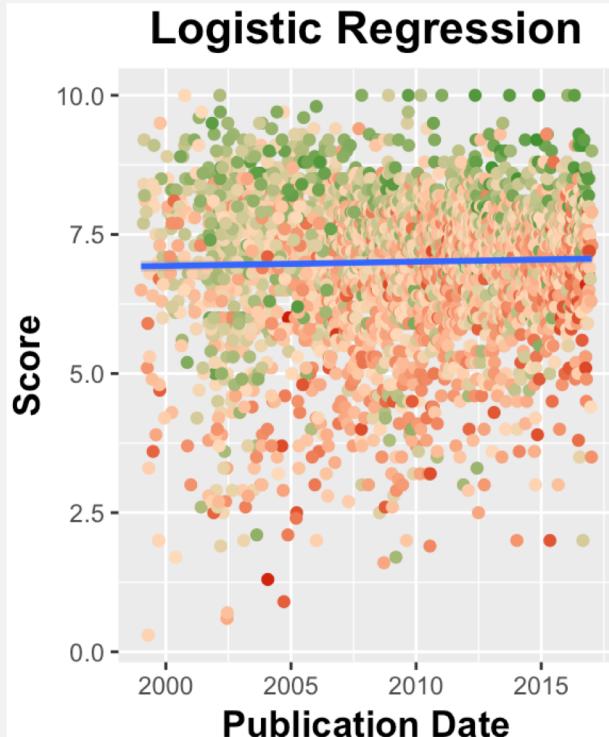
Average Score: 6.8 – 7.3



Foo Fighters

		Probability Adj.
• Spotify Followers:	5,156,671	-1%
• Spotify Popularity:	79/100	-6%
• Genre:	Rock	-4%
• Sub-Genres:	Modern Rock, Rock	-12%
• Label:	Universal, EMI, Warner	-10%

LOGISTIC REGRESSION MODEL: VS. MACHINE ALGORITHMS



SO, IS PITCHFORK BIASED?

Yes and No...

- Some evidence
 - Pattern(s) do exist indicating preference
- However not strong
 - Demonstrable violations of derived pattern(s)
- Instances of 'extreme' bias
 - Higher profile artists
 - Negative instances are often offset by positive



Pitchfork Gives Music 6.8

