Craft Beers

The Pursuit of Hoppiness

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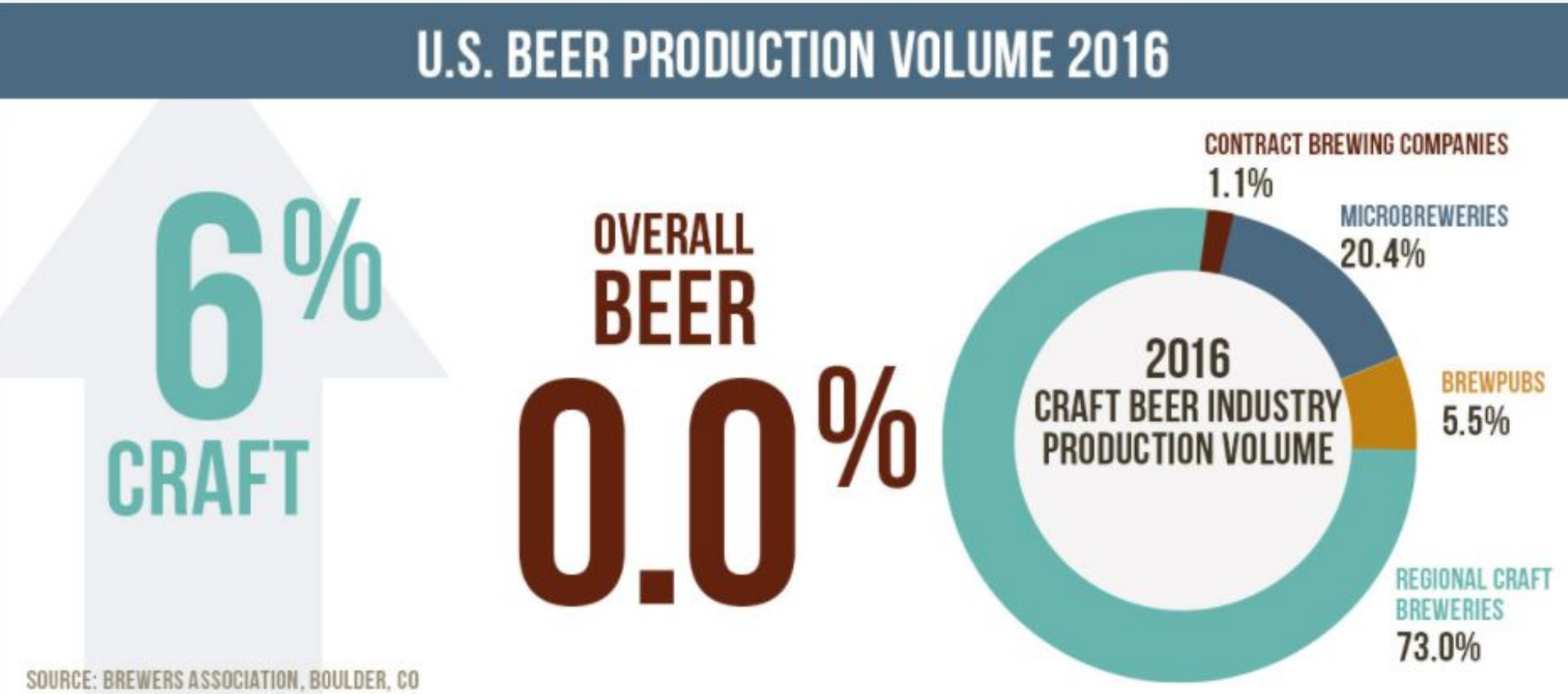
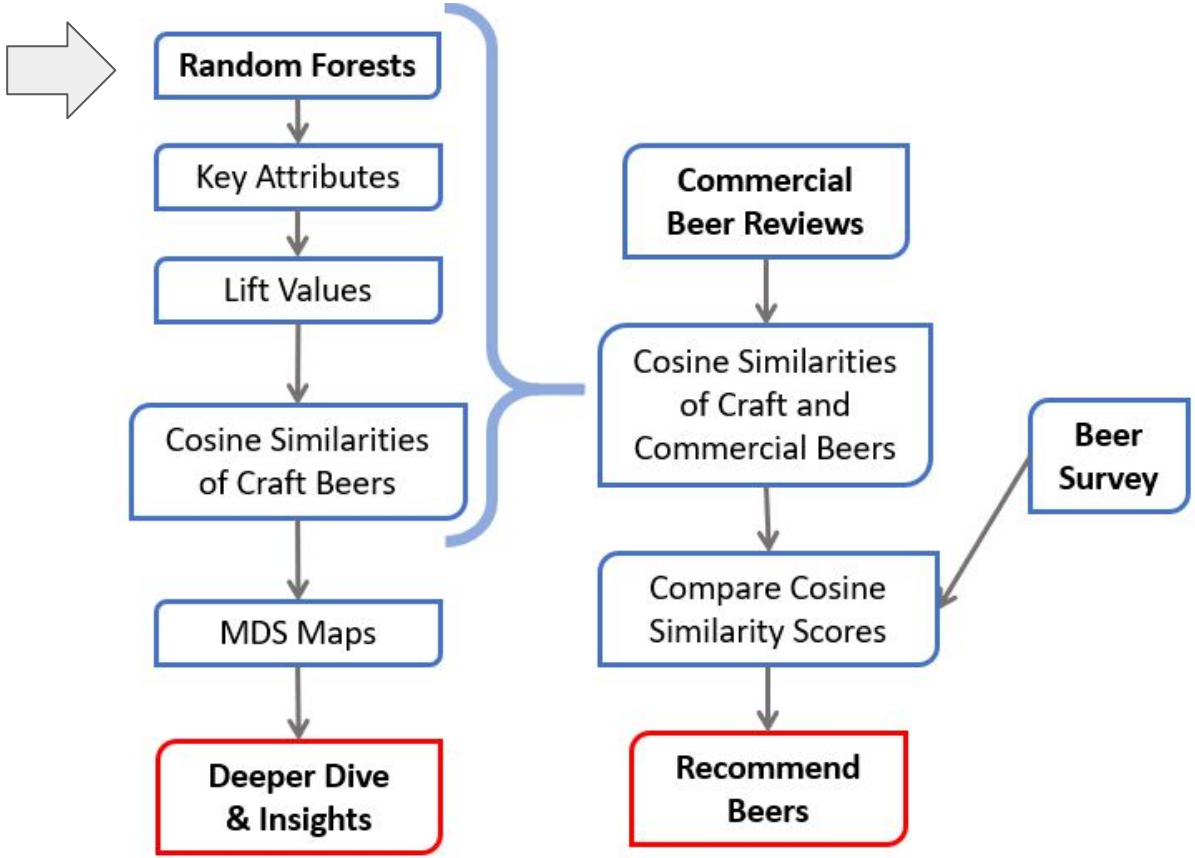
Craft Beer Industry - A Snapshot



Beeradvocate



Data Overview

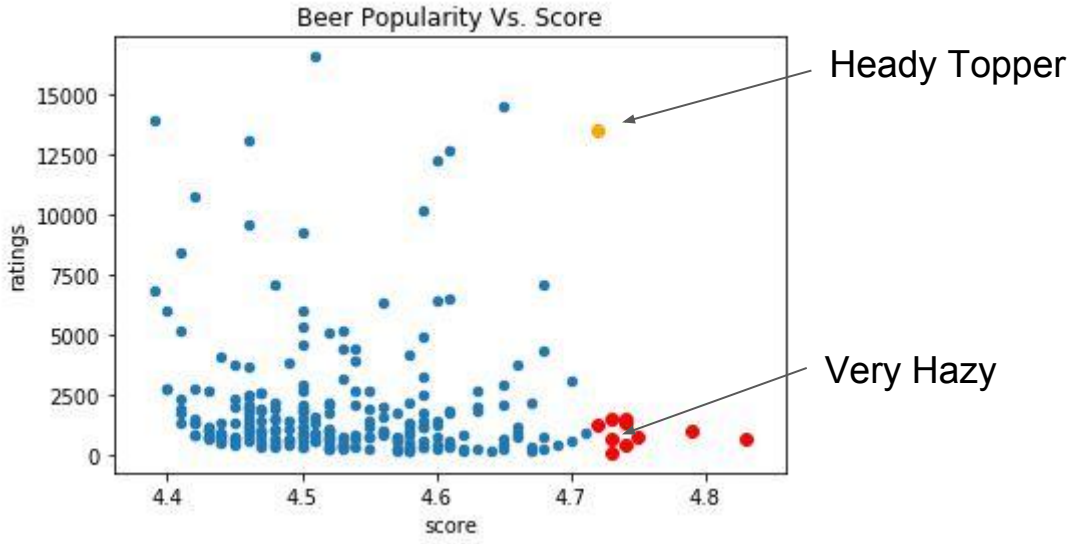
	beer_name	brewery_name	type	alc_pct	score	ratings
0	Kentucky Brunch Brand Stout	Toppling Goliath Brewing Company	Stout	12.0	4.83	638
1	Good Morning	Tree House Brewing Company	Stout	8.4	4.79	1,028
2	Heady Topper	The Alchemist Brewery and Visitors Center	IPA	8.0	4.72	13,562
3	Hunahpu's Imperial Stout - Double Barrel Aged	Cigar City Brewing	Stout	11.0	4.74	1,491
4	Barrel-Aged Abraxas	Perennial Artisan Ales	Stout	11.0	4.74	1,349

	PseudoSue	4.61	Great beer. Fruity taste leaning on tropical c...	4.50	4.75	4.50	4.50	Toppling Goliath Brewing Company	[great, beer, fruity, taste, leaning, on, trop...
	PseudoSue	4.82	Amazing beer. A lot of mango flavors. Medium t...	4.50	5.00	4.75	5.00	Toppling Goliath Brewing Company	[amazing, beer, a, lot, of, mango, flavors, me...
	PseudoSue	4.75	A great translucent yellow	4.75	4.75	4.75	4.75	Toppling Goliath Brewing Company	[a, great, translucent, yellow]
	PseudoSue	4.39	This pours a slightly hazy orange tan with gen...	4.50	4.75	4.25	3.75	Toppling Goliath Brewing Company	[this, pours, a, slightly, hazy, orange, tan, ...

Exploratory Data Analysis & First Look

From the scatter plot:

- No correlation between volume of ratings and scores
- High scores but low visibility
- Opportunity to find the “long tail” of craft beer

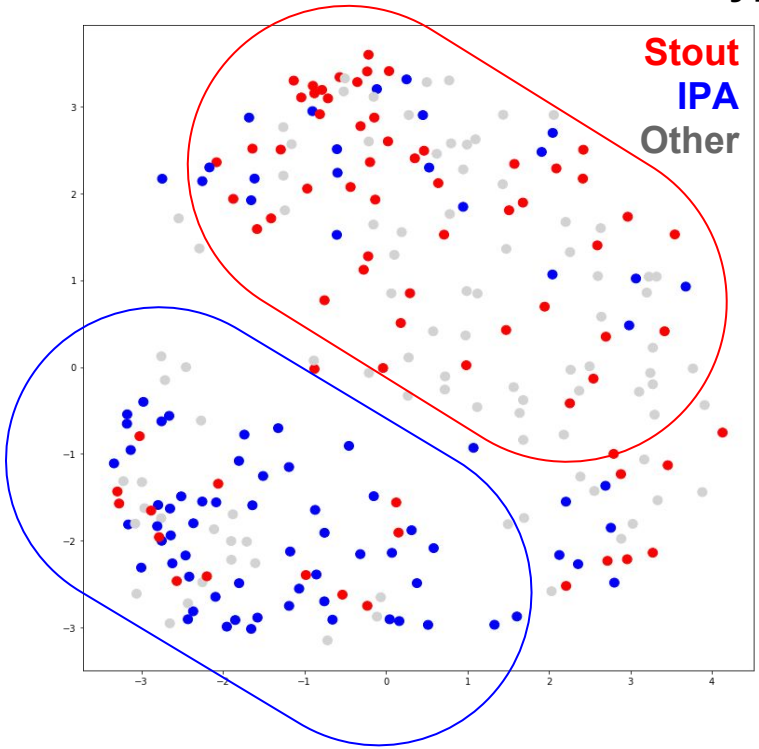


Attributes

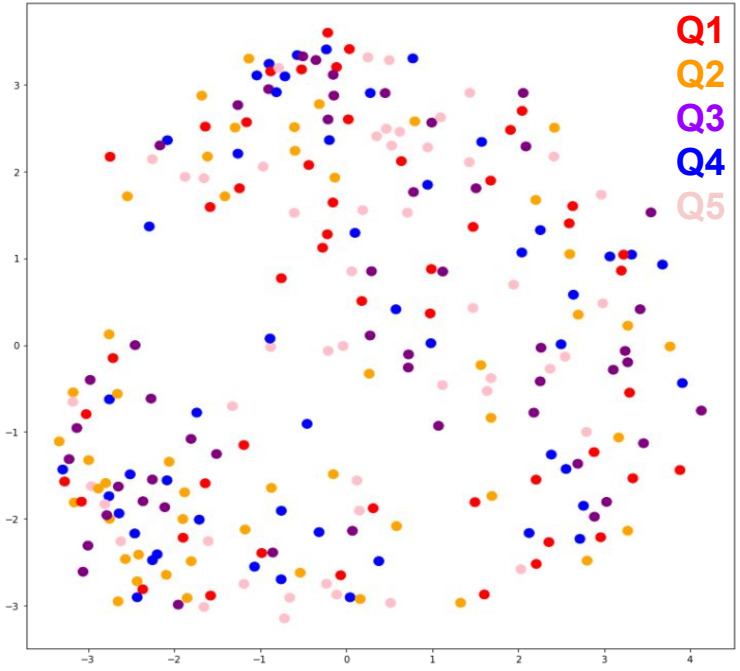
- Grid Search to optimize model parameters
  - N = 100, Depth = 6
- Key Attributes > Prediction Power

MDS Plots - Verifying Hypotheses

Cosine Similarities Based on Beer Type



Cosine Similarities Based on Ratings



Which do you think is more popular?

Two American Double / Imperial IPA, very similar position on MDS

vs.

“Long Tail” Visibility Problem

Double Sunshine IPA | Lawson's Finest Liquids

BA SCORE
4.67/5
2,138 Ratings

BEER STATS

Ranking:	#14
Reviews:	343
Ratings:	2,138
pDev:	7.28%
Bros Score:	0
Wants:	3,276
Gots:	243

Hopslam Ale | Bell's Brewery, Inc.

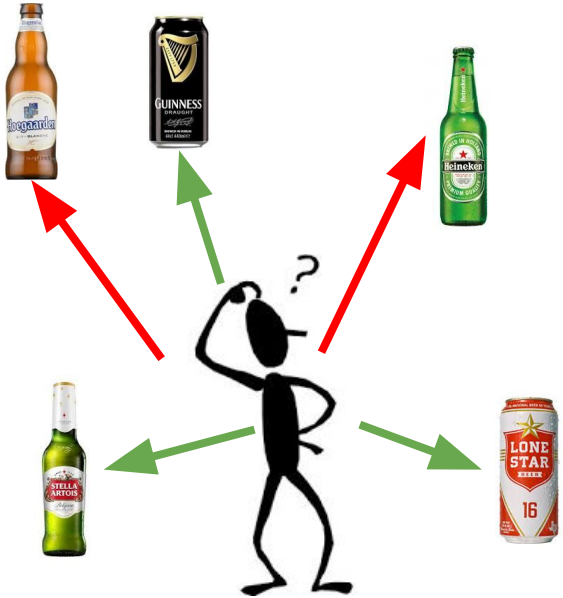
BA SCORE
4.46/5
13,068 Ratings

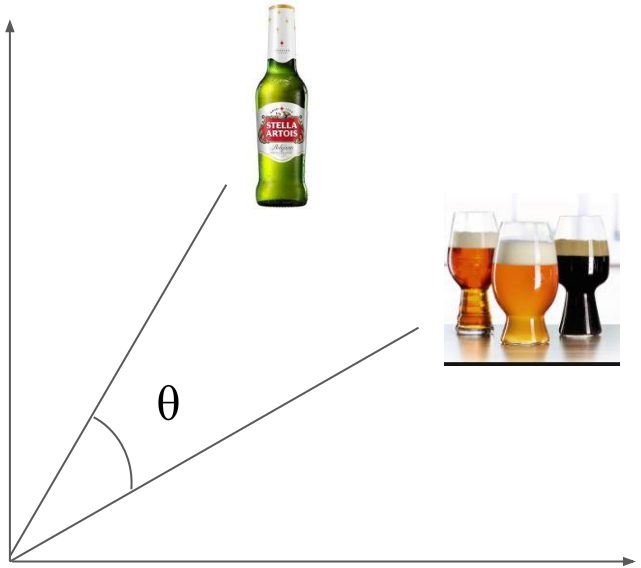
BEER STATS

Ranking:	#145
Reviews:	3,532
Ratings:	13,068
pDev:	9.42%
Bros Score:	4.2
Wants:	2,678
Gots:	3,643

Recommendation System

Recommendation Process → Scrape commercial beer reviews → Cosine similarities of commercial beers → Create similarity scores for survey responders → Recommend beers with highest scores





Example Recommendation

Recommendation	Ali
1	Abraxas
2	AleSmith Speedway Stout - Vietnamese Coffee
3	Everett Porter
4	Coffee Abraxas
5	Bourbon Barrel Champion Ground

All recommendations sent out via GroupMe

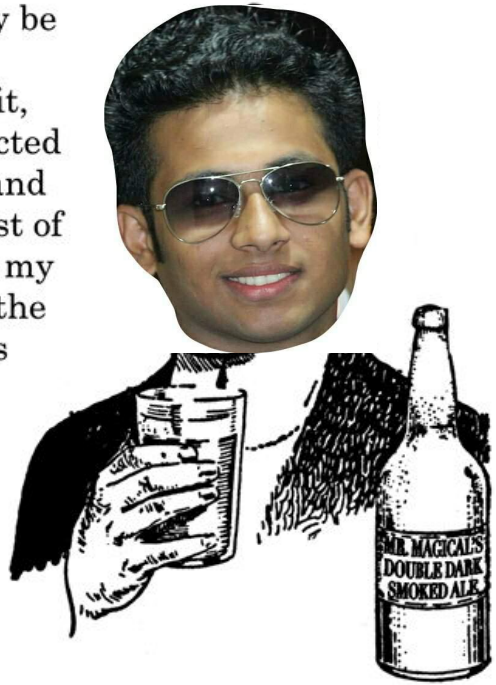
Conclusions

“Is there no other forum you can scrape from?” - TA Aditya

Two main outputs: **Insights** and **Recommendations**

- Marketing, Regionality, Seasonality, Visibility Problems → data can tell
  - Further exploration could provide solutions
  - After a certain threshold, quality is not the limiter for beer success
- Recommendations based on Commercial Beers instead of other craft beers
  - Could have recommended off of other top 250 craft beers or attribute preference profile
    - Too many unknowns for respondents
  - Could have any beer in our survey

Special shoutout to Sidhaarthan

Thanks for Listening!

Should I really be drinking this? What if I like it, and I get addicted to craft beer, and I spend the rest of my life telling my friends about the different kinds of hops?