

# Malted Beverage and Brewery Ratings Across the U.S.



Data Analyzed and Presented by:

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# Motivation and Summary

- What makes the best beer?
- What factors influence consumers ratings on beer?
  - Consumer reviews data
- Beer advocate
  - A large and diverse community considered one of the go-to websites for beer advise.



# Motivation and Summary

- Data Set:
  - 1.5 million reviews
  - Rates common attributes of beers and provides their overall ratings



# Questions to Address

What is the Perfect beer recipe?

Q1. What attribute has the greatest effect on the overall beer rating?

Q2. What are the most popular beer types?

Q3. Where are breweries located in the U.S.?



# Questions to Address

What is the Perfect beer recipe?

Q1. Does an attribute have an effect on the overall beer rating?

Ho. No attribute has an effect on overall beer rating.

Ha. Aroma does have an effect on the overall beer rating.

Repeat for palate, taste, appearance and ABU.



# Data, Cleanup, Exploration

- 1,586,614 values
- Cleaned up data set with unique typography/fonts
- Removed every value that wasn't located in the United States (just for brewery analysis)
  - Used Longitude, Latitude



# Data, Cleanup, Exploration

- Bins were used to group the data by number of reviews
  - Fibonacci sequence (groups data by group)
- Removed beers with less than nine reviews
- Averaged the ratings for all beers per brewery to assign an overall rating to the brewery
  - Summed values based on review, beer style and overall beer rating



# Data Analysis

- What attribute is the greatest predictor for the overall rating?

Palate?

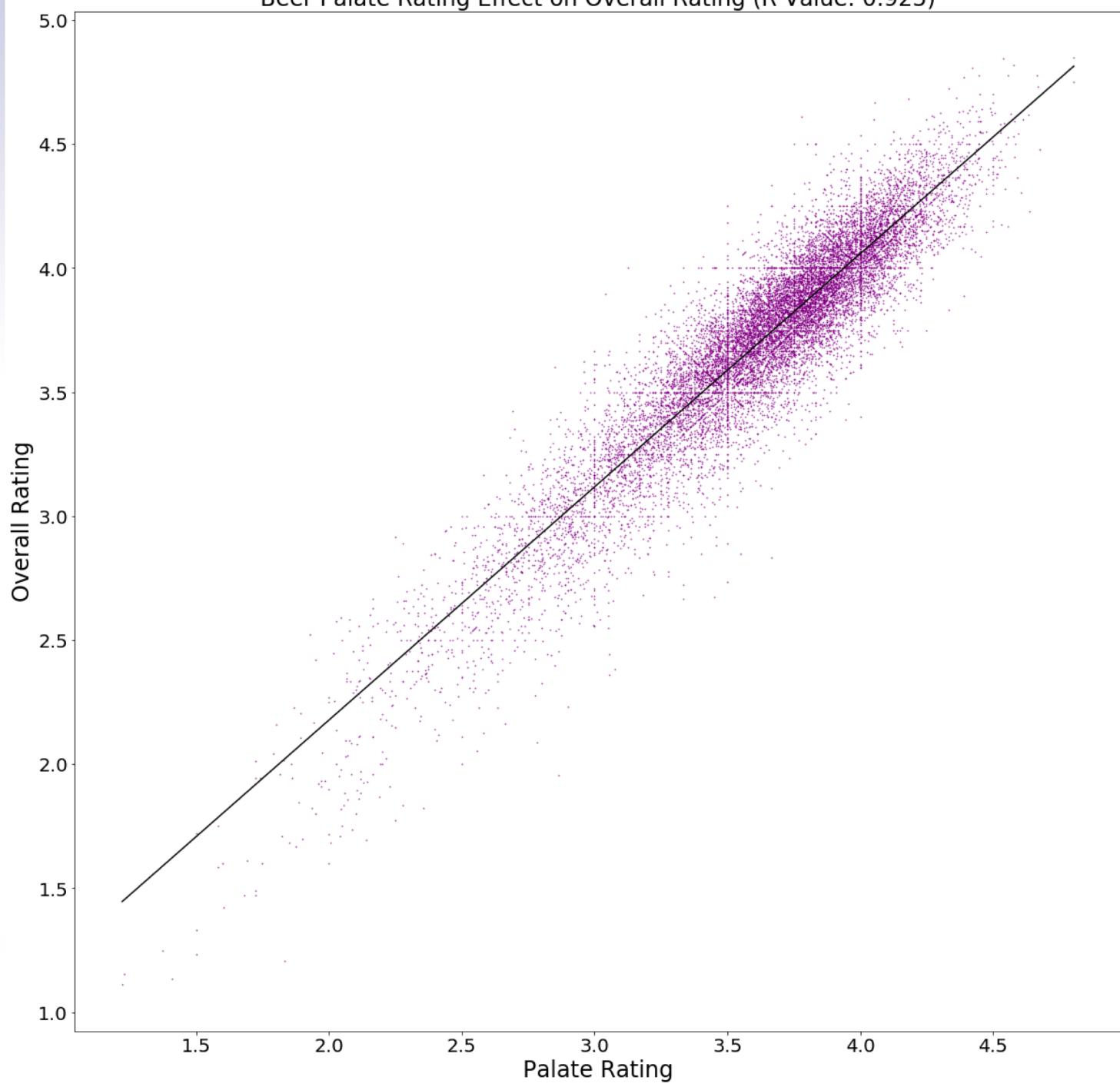
Aroma?

Appearance?

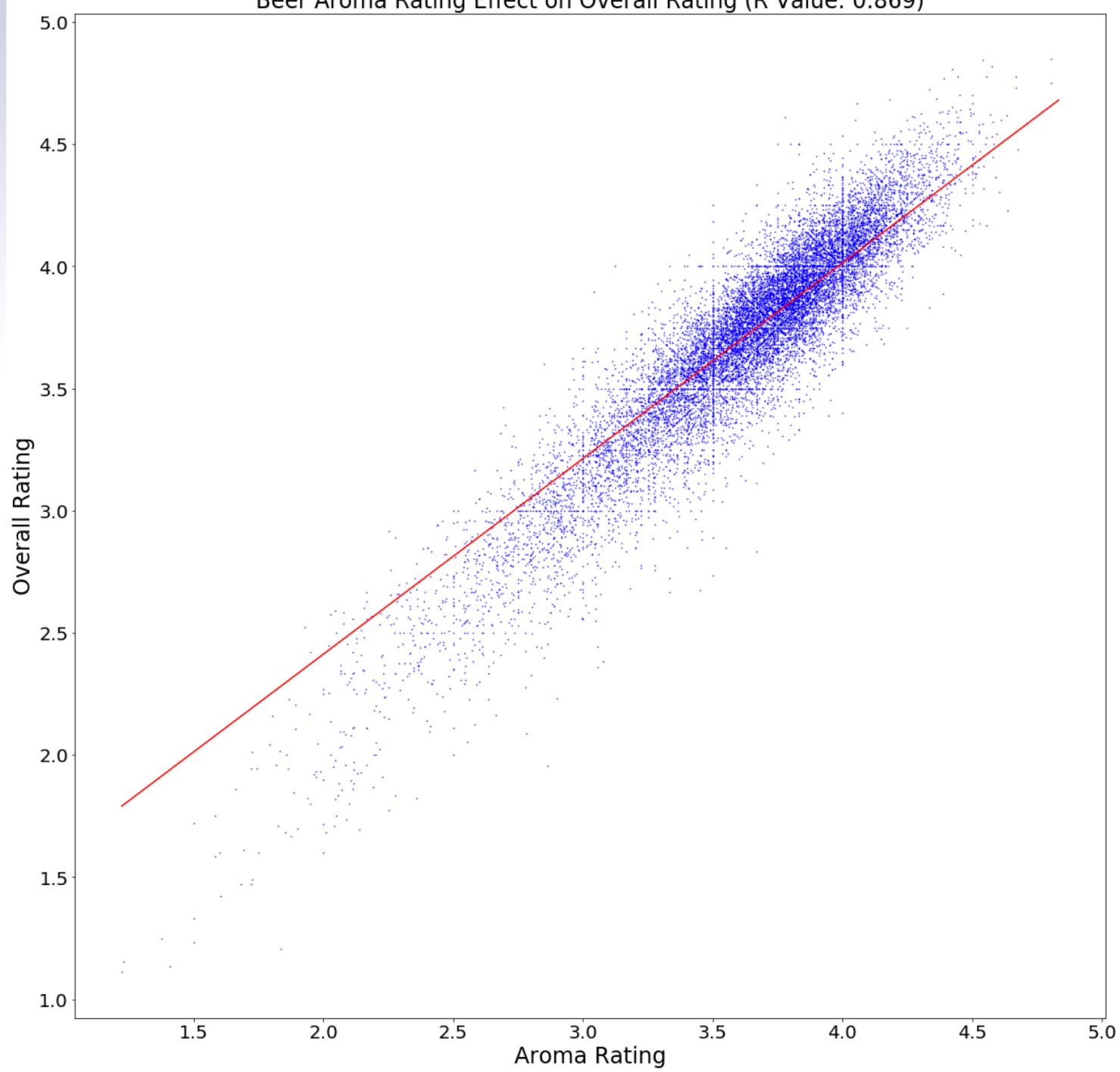
Taste?



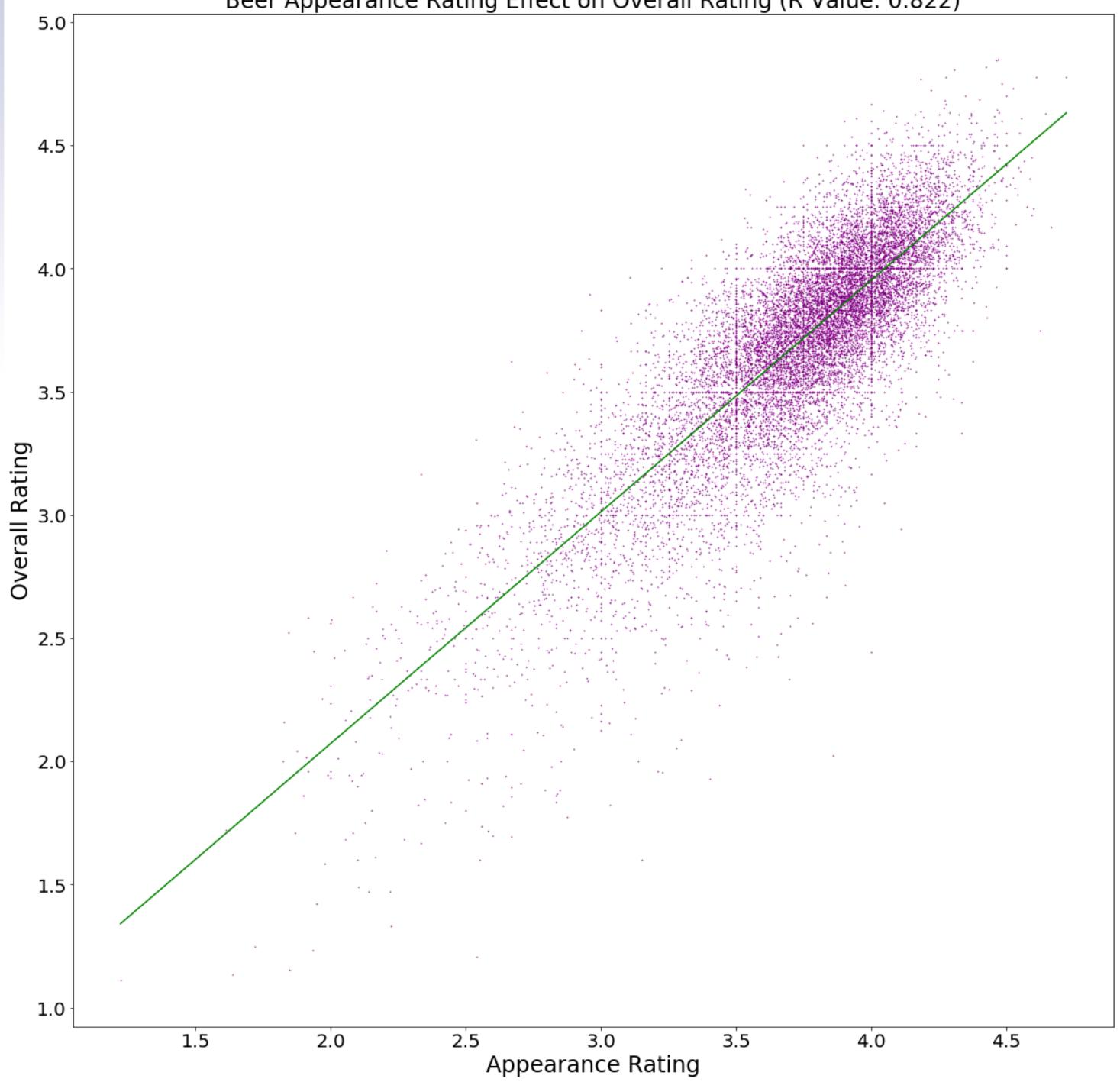
Beer Palate Rating Effect on Overall Rating (R Value: 0.925)



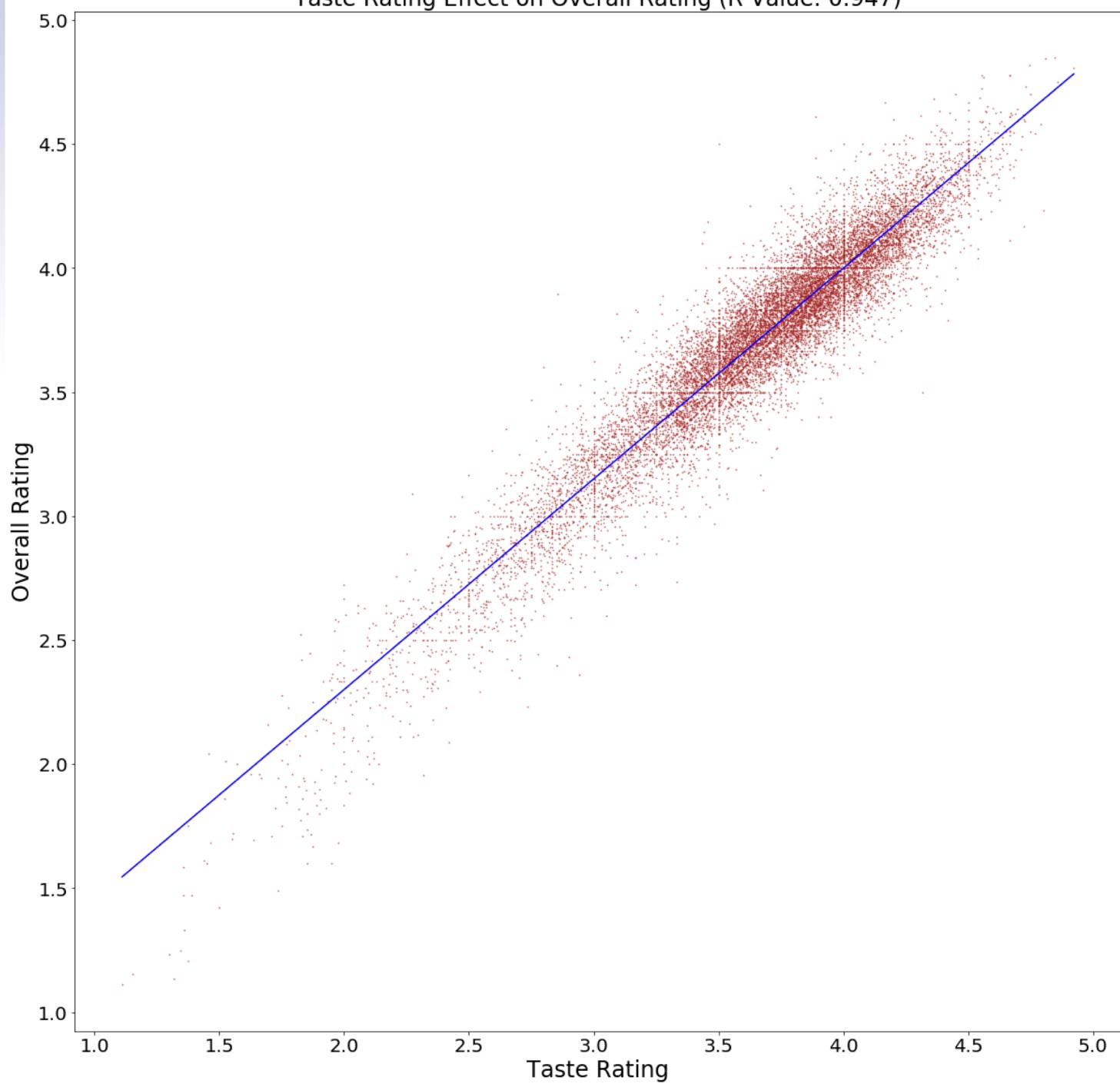
Beer Aroma Rating Effect on Overall Rating (R Value: 0.869)



Beer Appearance Rating Effect on Overall Rating (R Value: 0.822)

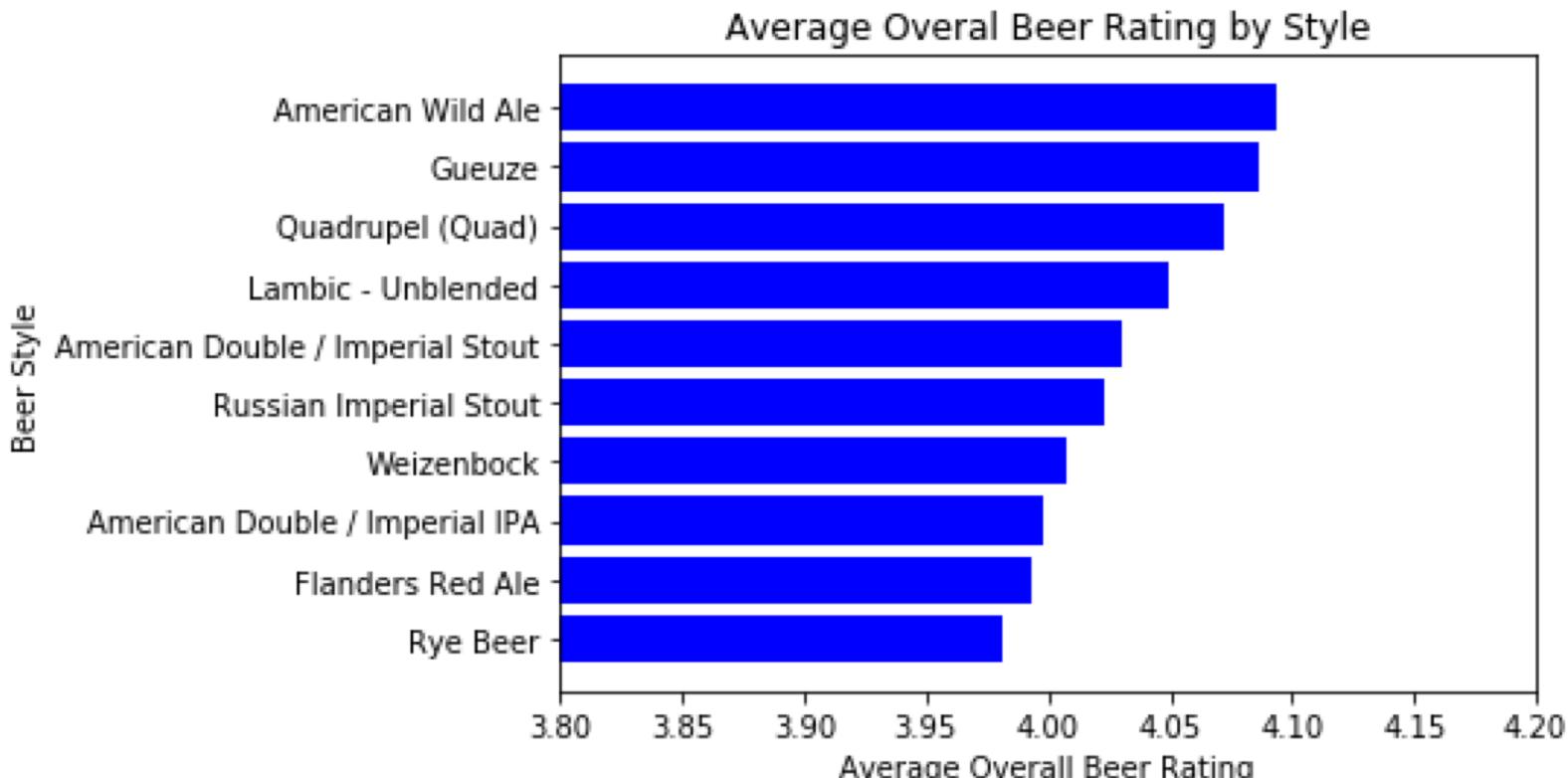


Taste Rating Effect on Overall Rating (R Value: 0.947)



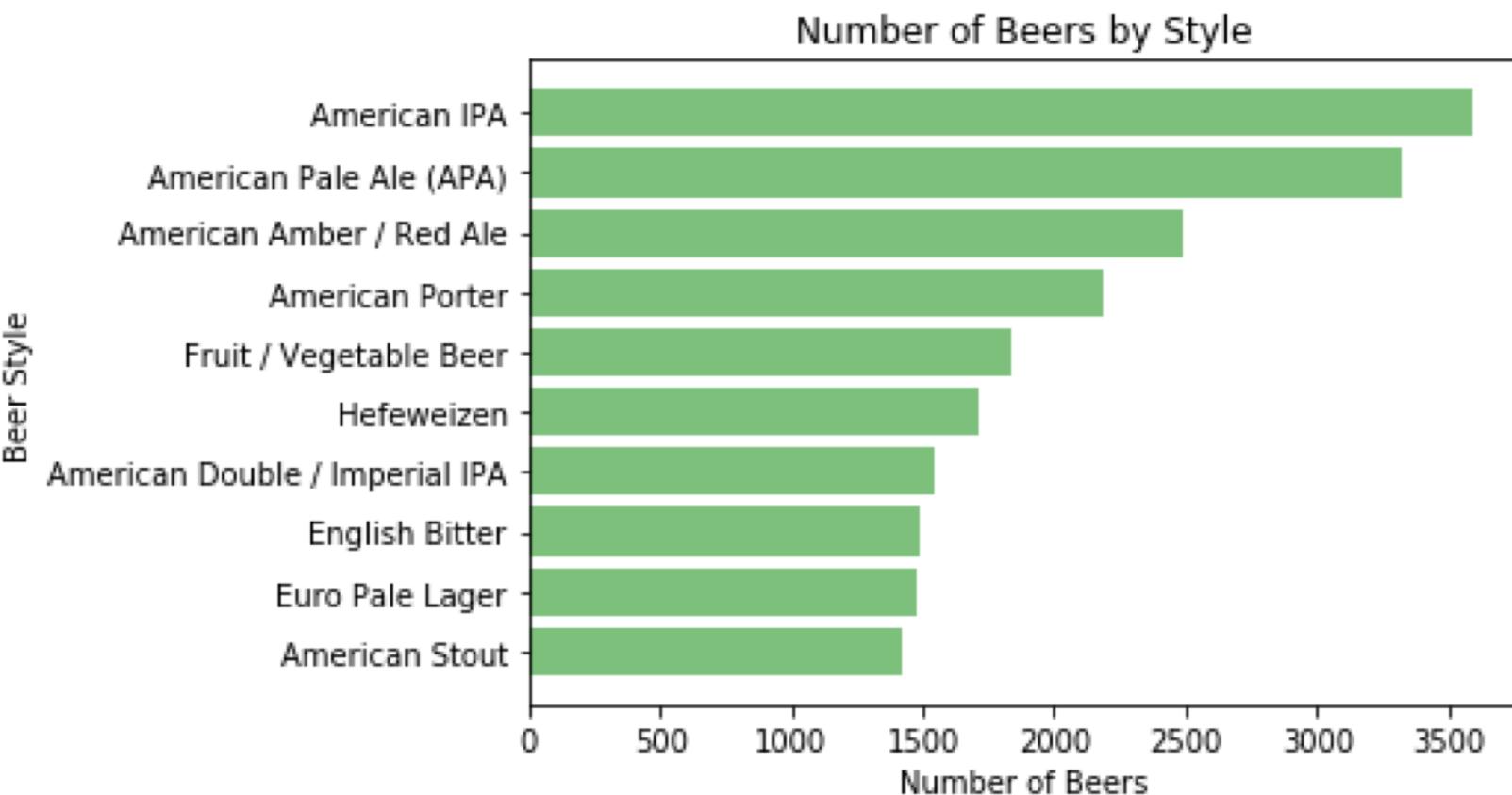
# Data Analysis

- What are the highest rated beers?



# Data Analysis

- How many beers are produced by style?



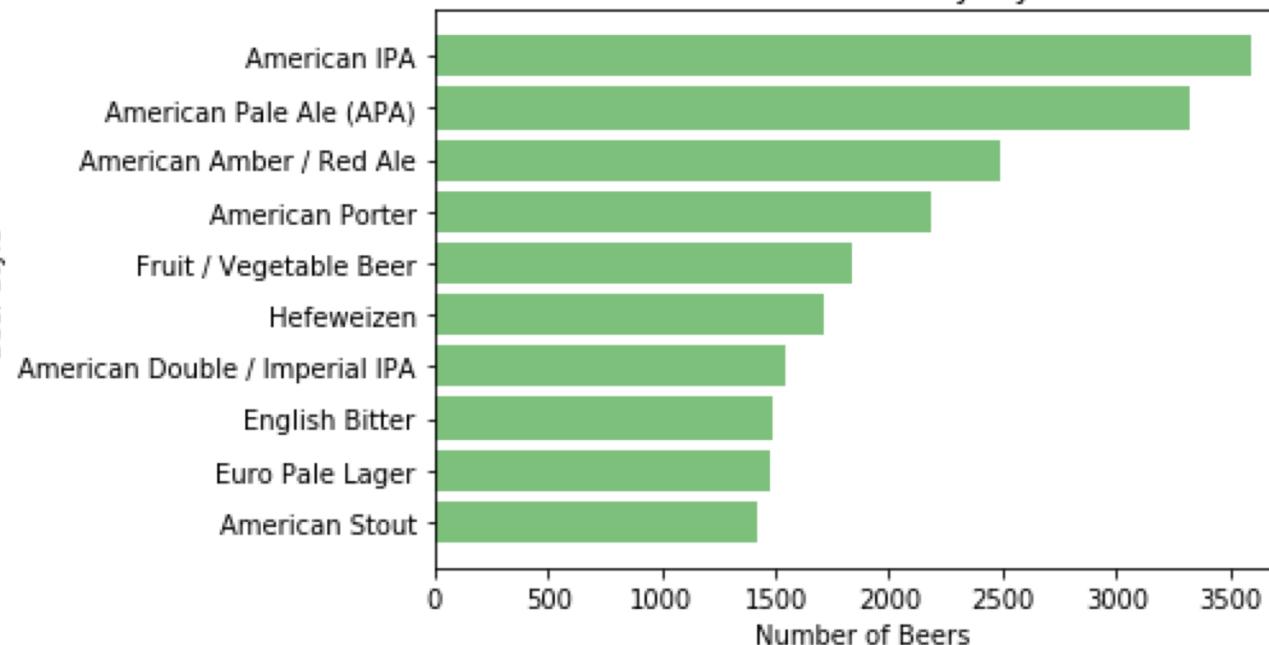
# Data Analysis

- Which beers receive the highest number of reviews?



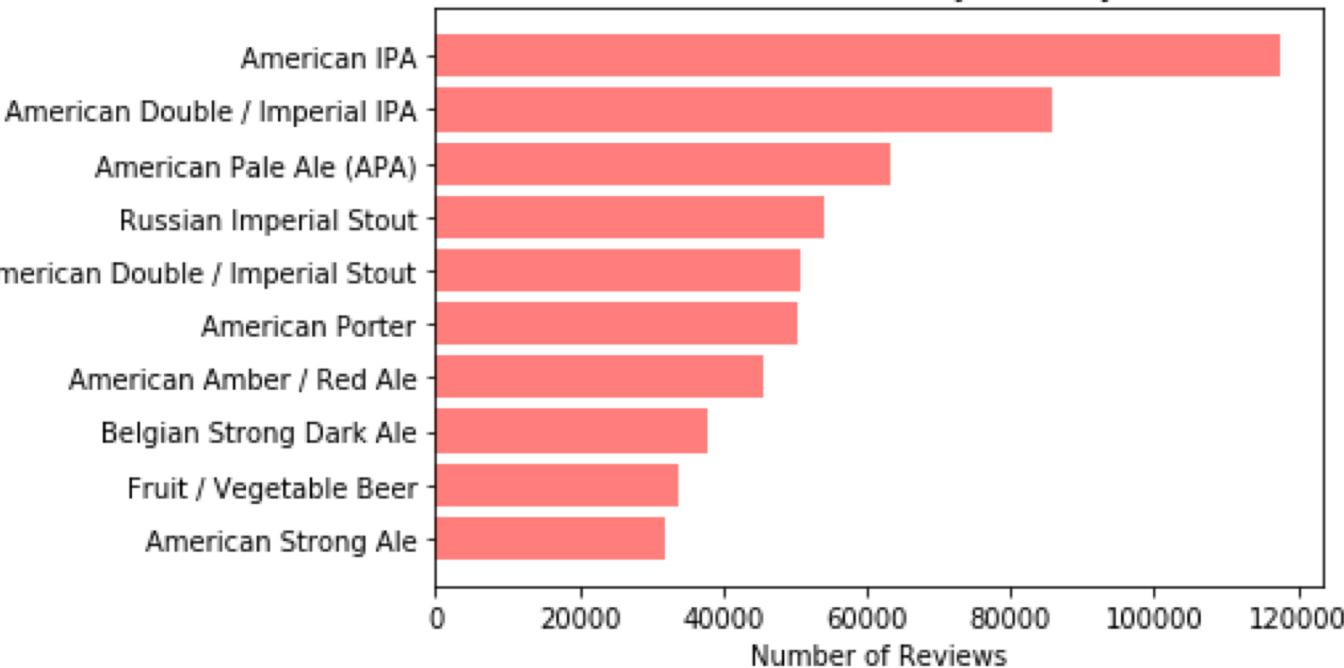
Beer Style

## Number of Beers by Style



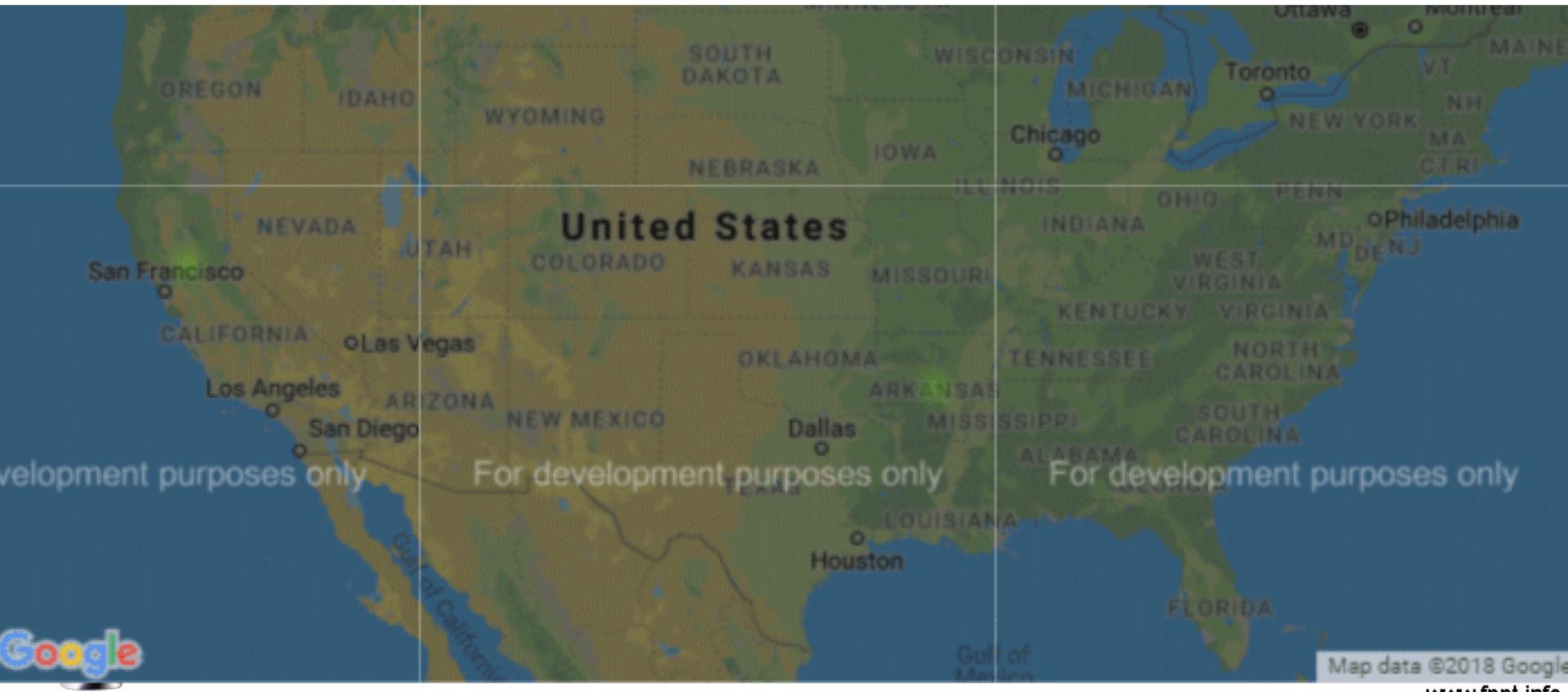
Beer Style

## Number of Reviews by Beer Style



# Data Analysis

- Brewery location by overall beer rating
  - Rating 1-5 by .5 increments



# Discussion

- Looking at the data:
  - Taste has the highest correlation on overall beer rating
  - Appearance has the lowest correlation to overall beer rating
- American IPA's are the highest number of beers produced and reviewed but didn't make the top 10 beer styles by rating
  - The northeast coast has the largest concentration of highly rated beers in the U.S.



# Challenges

- Dealing with a large data set (1.5 million reviews)
- Identifying which beers where located in the United States
  - Beer set didn't have a location



# Questions?

