



What Makes Beer?

Jenn Choi, Julia Lee, Alexander Messam, Mary Garrett (Group 13)
Statistical Graphics and Visualization (36-315)

Overview of the Dataset

Brewer's Friend Beer Recipe

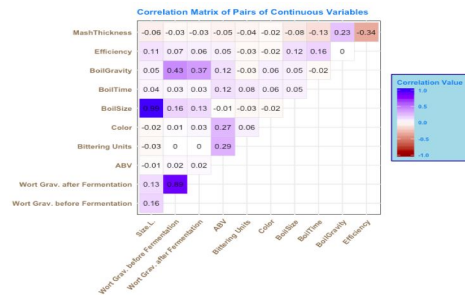
– Collection of over 100 different Homebrew Beer Styles.

What makes Beer?

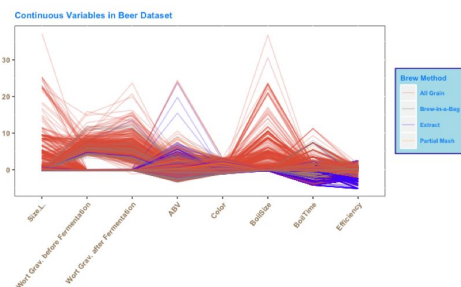
Questions:

- How are the different factors of Beer related and affect each other?
- What are the most common Brew Styles or Brew Methods?

Factors that make a Beer



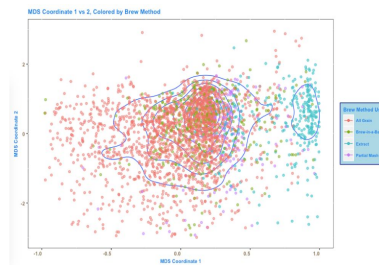
Variables such as efficiency and mash thickness are negatively correlated, while specific gravity of wort before and after fermentation are positively correlated.



We can see here which continuous variables are negatively or positively correlated. The most negatively correlated variables are specific wort after fermentation and alcohol by volume.

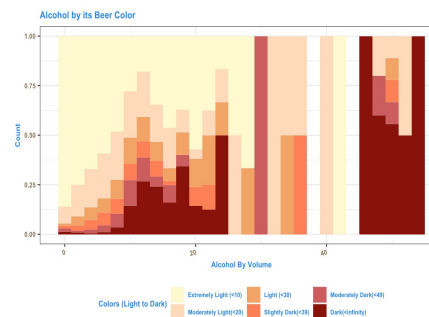
Relationship between Ingredients and Specific Procedures

MDS Coordinates by Brew Method



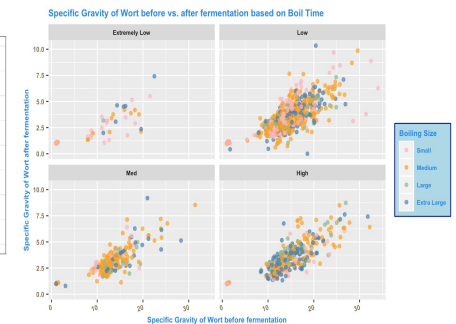
Highest density regions in the center of the graph. There seems to be two clustering groups

Colors vs. Alcohol



Darker colors of the beer seems to have a greater alcohol level.

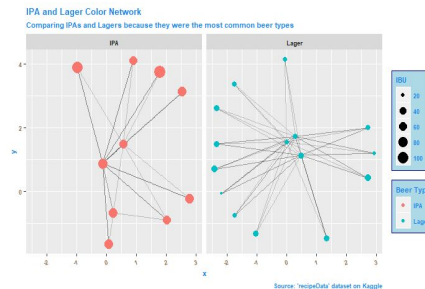
Gravity wort before vs. after Fermentation



There seems to be a positive relationship between before and after fermentation. Larger boiling size seems to require high boiling time. One outlier was removed from the dataset.

Popular Beers and Beer Types

Similarities between Beer Types



Both beers can have a wide range of colors. However, IPAs will in general be more bitter than Lagers.

Beer Names



Most common words in beer names.

IPA brews are usually most closely similar to other IPA brews, same goes for Lager brews. However, some IPAs are more similar to certain Lagers than other IPAs, and vice versa.