

A close-up photograph of a beer's head and body. The top half of the image is filled with a thick, white, bubbly head of foam. Below the foam is a layer of golden-yellow beer liquid, densely packed with small, clear carbonation bubbles. The lighting is bright, highlighting the textures of the foam and the liquid.

# Craft Beer

DSC 680 Project Three

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# Background

- When people think about beer, they generally think of the main corporations such as Anheuser-Busch, Miller-Coors, Pabst Brewing Company, etc. and when we think about those companies, we often forget that craft beer is different.
- When you have a craft beer, you are supporting a smaller business, it is more likely to be locally brewed, and it is overall a different experience than you would from having a beer from a big named brand.
- Breweries help local economies with providing more jobs and it is also known that they do contribute to the local tax base.
- Breweries “offer a more refined environment where professionals can socialize and appreciate a crafted beverage” (Upstream Brewing Team, 2020).
- The business is not for everyone; however, it does benefit everyone. Upstream Brewing Team states that the “beer market keeps revenue circulating throughout the country.” The industry also provides employment, a place for events to take place, both professional and social, and they take pride in what they do. Having a brewery in your city and/or state supports you in one way or another.

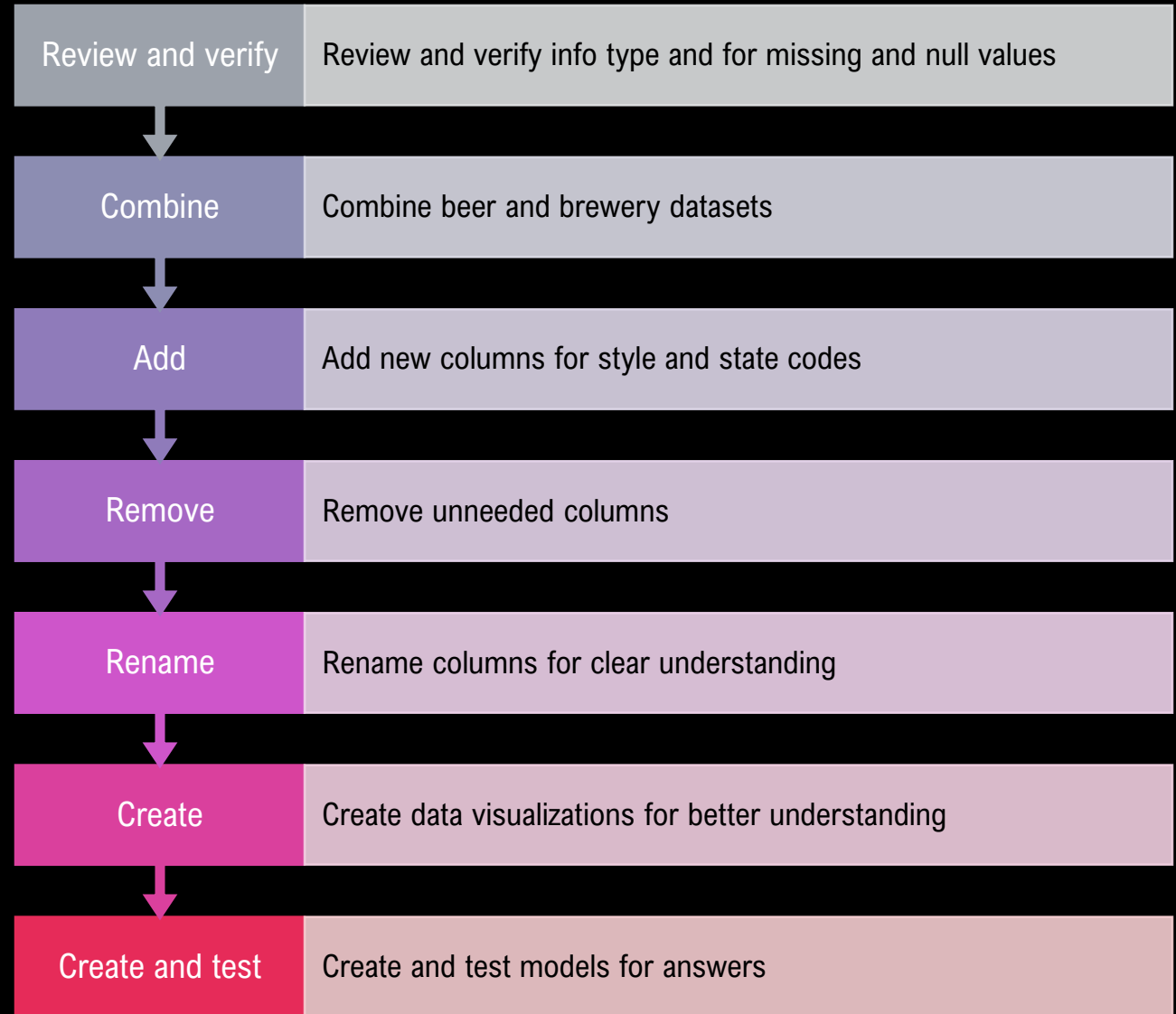
# Dataset

abv	ibu	id	beer	style	brewery id	ounces	brewery	city	state	Style code	State Code
0.050	NaN	1436	Pub Beer	American Pale Lager	408	12.0	10 Barrel Brewing Company	Bend	OR	17	37
0.066	NaN	2265	Devil's Cup	American Pale Ale (APA)	177	12.0	18th Street Brewery	Gary	IN	16	15
0.071	NaN	2264	Rise of the Phoenix	American IPA	177	12.0	18th Street Brewery	Gary	IN	13	15
0.090	NaN	2263	Sinister	American Double / Imperial IPA	177	12.0	18th Street Brewery	Gary	IN	10	15
0.075	NaN	2262	Sex and Candy	American IPA	177	12.0	18th Street Brewery	Gary	IN	13	15

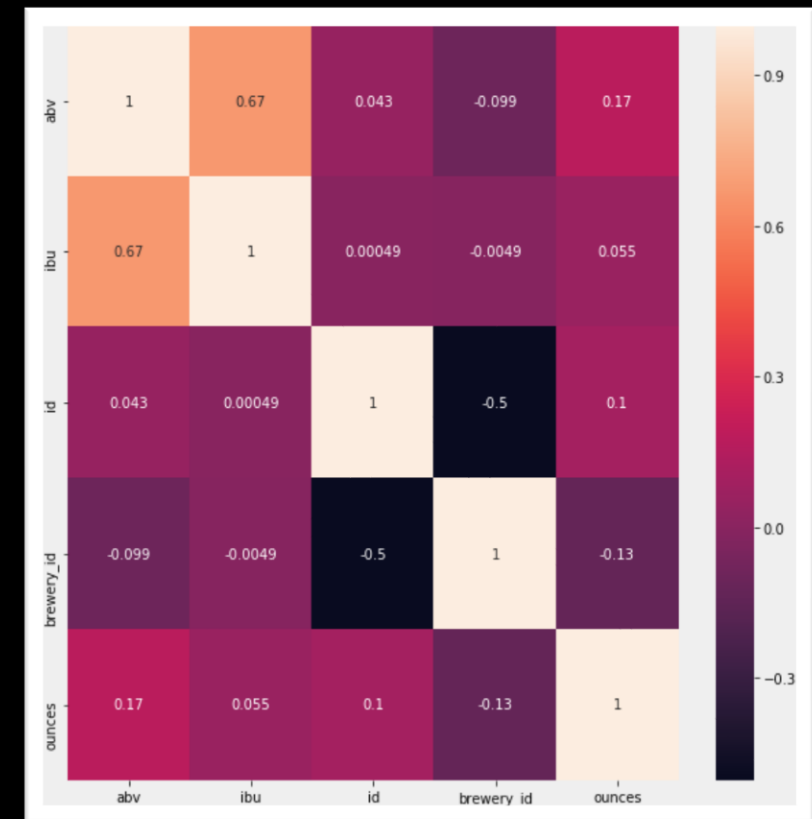
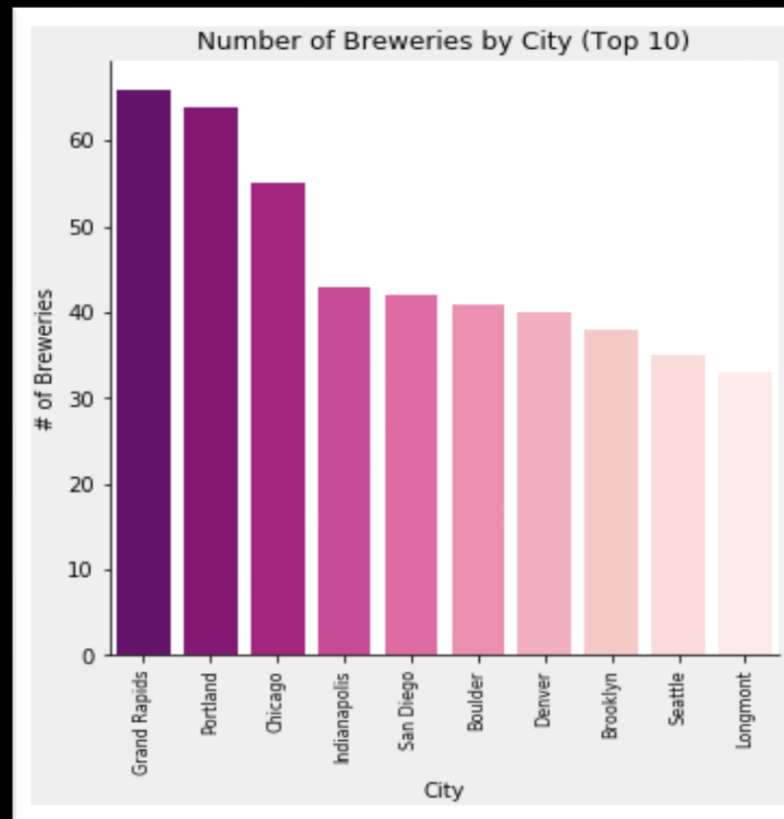
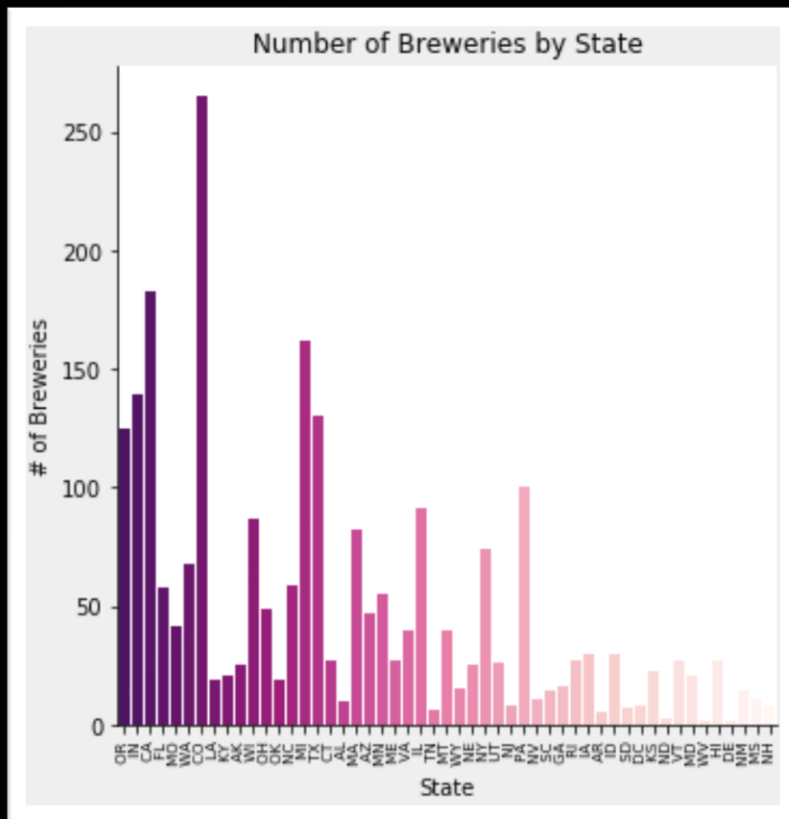
Column Name	Data Type	Description
ABV	Float	The alcoholic content by volume with 0 being no alcohol and 1 being pure alcohol
IBU	Float	International bittering units, which describe how bitter a drink is.
ID	Integer	Unique ID.
Beer	Object	Name of the beer.
Style	Object	Beer style (lager, ale, IPA, etc.)
Brewery ID	Integer	Unique identifier for brewery that produces this beer.
Ounces	Float	Size of beer in ounces
Brewery	Object	Name of the brewery
City	Object	Location of brewery (city)
State	Object	Location of brewery (state)
Style code	Integer	Code assigned to the style of beer
State code	Integer	Code assigned to the State location

# Dataset Description

# Data Prep / Exploratory Data Analysis



# Visualizing the Data

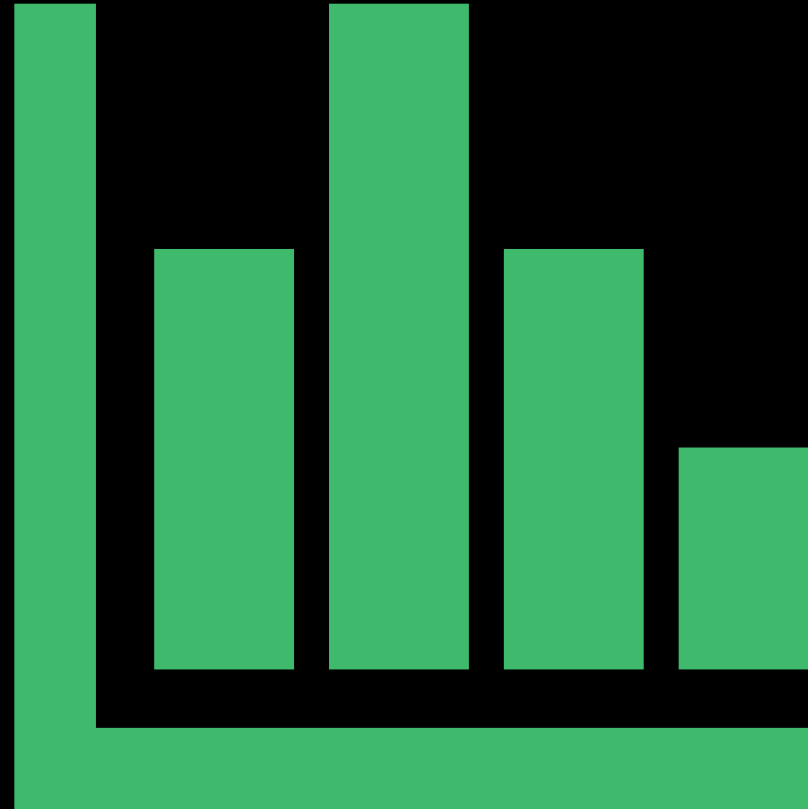


# Models

- Data cleaning
- Exploratory data analysis
- Visualization
- Gaussian Naïve Bayes
- Logistic Regression
- The target variables: style and state

# Results / Discussion

- Colorado has the highest number of breweries in its state
- Grand Rapids is the city with the most.
- ABV and IBU have the closest relationship to each other within this dataset.
- Fitting each of the models for their predictions, it was determined that both models were effective for predicting the state outcome and the Naïve Bayes model was best for the style outcome.





# References

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