## **Portfolio**

<https://rajk2888.github.io/DSC680-portfolio/>

**Introduction**

When most people think of beer, they think of major corporations such as Anheuser-Busch, Miller-Coors, Pabst Brewing Company, and so on, and we often forget that craft beer is something very different. Craft beer implies you're supporting a smaller company, most likely locally brewed, and you're getting a different experience than you would from a big-name brand. People will travel from all around to check what breweries have to offer when they first open, just to see what they have to give, something new. This benefits local economies and, in addition to creating more jobs, brewers are recognized to contribute to the local tax base.

The company is not for everyone, but it benefits everyone. The "beer market keeps revenue circulating throughout the country," according to the Upstream Brewing Team. The sector also provides jobs and a venue for professional and social activities, and they are proud of what they do. The presence of a brewery in your city and/or state benefits you in some way.

**Methods**

During the course of this endeavor, a variety of methods were employed. Starting with data cleansing, we moved on to exploratory data analysis, data visualization, and lastly fitting and testing Gaussian Nave Bayes and logistic regression models. The datasets were obtained from Kaggle (www.kaggle.com/nickhould/craft-cans), and were integrated into full dataset. For two different tests, two target variables were focused on: ABV and state. ABV, IBU, ID, Beer, Style, Brewery ID, Ounces, Brewery, City, State, Style code, and State code are among the extra variables in the collection. More information on each variable can be found in Appendix A's chart.

**Results**

According to the graphics (Appendix C and Appendix D), Colorado has the most breweries at the moment, with Grand Rapids having the most. Within this dataset, it is also known that the ABV and IBU have the closest association. After fitting each model for its predictions, it was discovered that both models were effective at predicting the state outcome, but the Nave Bayes model was the best at predicting the style outcome. Each model displayed the outcomes of the data we were given in the dataset, and we may utilize them to learn more and fill in the gaps.