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Beer Recommender Executive Summary:

Our group was initially inspired to create recommender model using the KNN algorithm because one of our members father will be opening a brewery in the near future. Being that beer is one of the most popular alcoholic beverages in the world a web hosted interactive dynamic dashboard that will recommend a beer to the active user would be really helpful to the avid beer connoisseur or the casual drinker. Since there are so many beers out there, we decided to narrow down our scope to only the breweries in Texas. Our site will provide tableau visualizations that are interactive depending on the beer that the user clicks. They will see the graphs change and display style by seasonality, number of reviews per year, an Abv heat map, and a map of all the breweries in Texas, to name a few graphs. The site will also act as a host to 3 algorithm models that take in 3 different user inputs and will make recommendations based off the nearest neighbor algorithm.

We built our website that's hosted on python anywhere using a flask app with a bootstrap nav bar with a clickable tab that allows you to navigate our site to the home, about us, tableau, resources, data table, and recommender pages. The reason we decided upon a KNN model asides from its simplicity to understand, is because the concept behind it is that it will take the beers that are most similar to the users input and use them as a recommendation. Similarity is defined or interpreted as distance, so the closer the to the chosen beer, the more similar they are to the algorithm. So, for our website one of the recommendation models will take a user input of style

and then the model will look at the query points that are closest to that style of beer and recommend them.

Some limitations we faced is time, our model is great but if we had more time, we could probably have explored content-based filtering. Using this type of filtering allows the model to take in more attributes into consideration when making its recommendation more accurately.

In conclusion, creating a beer recommender model with KNN necessitates a variety of data science skills, including data preprocessing, machine learning, and evaluation techniques. It is possible to create a powerful tool that can help users discover new beers and broaden their horizons with the right approach. Our site allows users to dynamically explore different features of Texas made beers and be given a new scope on how data can help us visualize complexities in an easy way. Our website allows users to dynamically explore various features of Texas-made beers and gain a new perspective on how data can help us visualize complexities in a simple manner.