**Goal of the project**

The purpose of this project was to indicate strengths and weaknesses in the {location here} restaurant based on customer reviews. What I am looking at is negative and positive responses that customers have left on Yelp and see what the thing the {location here} does the best and the worst, this is to help improve the overall quality of the business and satisfaction of the customers.

**How it works**

**How i gathered the data**

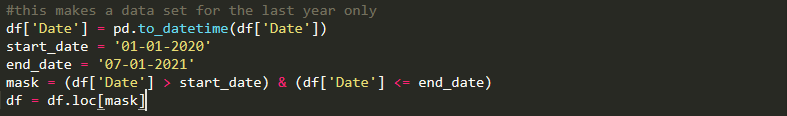
I gathered the data with python utilizing the module selenium. I made a function that takes in a yelp URL and grabs text from each review container on the page.

To have it go to the next set of reviews I manipulate the ending of the URL “?start=0” and add 10 to the 0 pulling up the next 10 reviews and have it repeat this process until it gets to a page that does not exist then it stops.

As it goes through each page it saves each entry into a csv file, the 3 things I'm getting from this page is: The review itself, the rating, and the date it was posted.

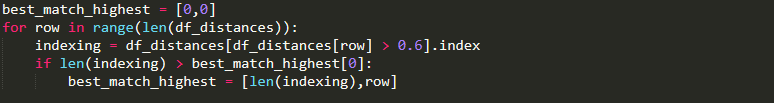
**How the machine learning works**

First, I made a pandas DataFrame for my data with 3 columns: "Rating", "Review Text", and "Date". Once i had it in a DataFrame I removed all reviews that had 5 words or less in to filter out some of the none necessary data.

I wanted to be able to see this difference in reviews over different time periods so I added a few lines of code that allowed me to only select reviews within a certain time range as shown below.

I also wanted to be able to separate the “Good” reviews from the “Bad” reviews and I did this by splitting the DataFrame in two based on user ratings. If the rating was a 4 or a 5 it would be put in the Highly rated DataFrame and if it was rated 3 or below it was put into the Low rated DataFrame.

Next I started preparing to vectorize the data. I used NLTK WordNetLemmatizer to account for words with similar meaning and I used NLTK RegexpTokenizer to split up the data into sentences. Once the data was vectorized I used cosine similarity to determine how close reviews were to each other. I then needed to find out how to tell what kind of reviews popped up the most, so i had a for loop run through the data and find out which review had the most reviews similar to it as shown below.



After that i just wrote out a for loop to print off the results of the top 10 most similar comments to the best matched review here is the data for that. The reviews pulled below are from 08/01/2020-current.

**DATA**

**HIGHEST**

**BEST MATCH**

Rating: 5

Review: Doing an amazing job on social distancing!

The vegan options are wide and available. I ordered the 101 burger and am very happy with my decision. I ordered the crispy tater tots and they were very crispy, indeed! Loving my experience here while visiting town.

Dog friendly and your dog eats free in the weekends!

**Review Match #: 1**

Rating: 4

Review: Markus R.

Elite '2021

North Natomas, Sacramento, CA

68

41

72

2/24/2021

2 photos

We were greeted with friendly staff and a welcoming vibe. They was friendly banter from employees upon entrance. There is heated outdoor seating and the establishment is open till midnight on weekdays!

This is a perfect spot to relax and enjoy the bar vibes from the days before COVID. We mainly got shots of alcohol so I cannot speak to the flavor of our drinks as it was just straight alcohol. The prices are $ to $$, pretty much your average bar prices. The fries were nice and crispy, nothing special though. The service was fast and friendly. I am currently a little buzzed so forgive me if I make any spelling errors. The bathrooms were decent, the door handle was broken and the partition was also kind of broken.

TLDR/Bottom Line: open late(ish) on weekdays and outdoor seating

Men's bathroom

Wednesday night

Useful

Funny 1

Cool

**Review Match #: 2**

Rating: 5

Review: {location here} is my favorite spot to grab a few beers and watch the Giants game with friends. They have tons of new beers every time I come in! I ordered the new Cajun Mac and Cheese and the ceviche and guac and it was AMAZING, I wish they had it all year long! Super friendly staff too! Definitely made a regular out of me!

**Review Match #: 3**

Rating: 5

Review: Came here after 8pm and service was excellent. I don't know his name but he was tall with darker hair. Was very attentive and our drinks and food came out fast. Ordered the pulled pork Mac and cheese and a few beers. I would definitely go back. Plus they are dog friendly and patio seating.

**Review Match #: 4**

Rating: 5

Review: I really love this place. The waiters are so nice and the drinks are very affordable. The food is yummy as well. It is a mix of Thai and American. Their Pot Stickers are a must have. The Thai Lettuce Wraps are also a good one on the healthier side. Right now they are open until midnight and there is outdoor seating with heat.

**Review Match #: 5**

Rating: 5

Review: Ariyanna O.

Elite '2021

Sacramento, CA

44

31

116

10/7/2020

9 photos

this place is a gem ! We need more places to get out and hang during this difficult time. This establishment is definitely keeping up with covid rules and regulations to make sure everyone is able to enjoy themselves, safely. For starters the establishment is very clean and the staff are all very friendly. Their customer service is superb ! I knew right away I'd love this place because the staff is so welcoming !

I started off with a few cocktails. The first one I ordered was a KENTUCKY COBBLER $9(makers mark bourbon, peach schnapps, orange juice, sour mix) very fruity and refreshing; it's the perfect amount of everything. Second, I had a TOKYO TEA $8.50 , a Long Island iced tea variation (vodka, rum, gin, vodka, triple sec, melon liqueur, sweet and sour mix, soda water) if you like long islands you'll like it. The melon liqueur gives it a really yummy flavor. Lastly, I had a APEROL SUNSET $9.50 (patron silver tequila, aperol, agave, lemon juice, grapefruit juice). I wasn't a big fan of this cocktail, I don't like tequila that much. Though, if there was a different type of alcohol in it I'm sure it'd be good.

The food !!! Omg ! Delicious ! I ordered the drunken pig fries (crispy waffle fries topped w/melted cheese, beer braised pulled pork, spicy jalapeño salsa, spicy ranch, sour cream, cilantro, bacon bits). They were really good, you can tell that all the ingredients are fresh the food was hot upon arriving to our table. I did not substitute anything, only got the ranch on the side.

Also got a 20ct of Buffalo wings for the table. You can't go wrong with wings. The Buffalo sauce being used is flavorful and not too spicy. It's the right amount of heat. So if your sensitive to spicy foods like I am then you'll be fine eating them.

They're so cool they even have a dog menu !

This was my first time visiting, I will definitely be back. HIGHLY RECOMMENDED hangout !!

See all photos from Ariyanna O. for {location here}

Useful 3

Funny

Cool

**Review Match #: 6**

Rating: 5

Review: Dog friendly! Our server Tyler was very attentive, and the food was amazing. They even offer house made dog bowls! Make sure to try the Asian fries with chicken.

**Review Match #: 7**

Rating: 5

Review: Steve we thank you !! Burger was amazing

Good call on the drinks and finger foods

Ty you're awesome and very friendly

**Review Match #: 8**

Rating: 5

Review: Love love love the burgers here. Never been in person but order through Postmates all the time. Everything we have ordered has been delicious and well prepared. They do a great job with food and they earn a solid 5 stars!

**Review Match #: 9**

Rating: 4

Review: Great place to have some delicious food and they have a large selection of beer and ciders. We tried the Thai lettuce cups, pot stickers, buffalo wings and drunken pig fries which were my favorite! I also tried their lychee cider and it was deliciously refreshing and crisp. Service was pretty great, our server Grace was attentive and very friendly

**Review Match #: 10**

Rating: 5

Review: Love love love {location here}. The beer variety is amazing they always have great ciders on tap. The servers are all super friendly every time we come. I got the onion rings which were crispy and their house made ranch is amazing. We also tried their new Cajun shrimp Mac and Cheese which was delicious and had a nice little kick to it. Come try their new specials!

**LOWEST**

**BEST MATCH**

Rating: 2

Review: Please allow your staff to wear jackets if you are serving outside during winter weather. I was there yesterday, you not only ran out of propane for the heaters but staff was freezing. I was told by staff that they are not allowed to wear jackets if it cover their logo. A staff member told me she ordered one with the logo is and still not allowed to wear it. It was freezing cold yesterday. Staff was great but sounds like management really needs to know what it's like to work outside in this kind of weather. Please also get a tarp to cover the side of 16th st, would enclose the area much better.

**Review Match #: 1**

Rating: 1

Review: MUST READ/ ZERO STUnfortunate yelp does not allow that! On 9/29/20 family went to {location here}SACRAMENTO..I recommended they try {location here}and unfortunately they ordered this tower of beer... inside this tower was maggots... when you poured the beer you can not see maggots ( because of the fizz).. they drank a glass.. poured another and once the fizz settled my cousin noticed it... did not think anything of it until the glass was empty.. my brother then takes a utensil and scrapes it to a napkin... then reports the issue to the manager and the manager acted as if it was a joke.. and made an excuse saying "oh our staff must have not cleaned this one out before pouring beer into it"... they replaced their drinks and acted as if it wasn't a big deal.... So people of Sacramento a lot of businesses were closed for covid I get it.. but THIS business did not maintain up to code cleaning before reopening.... because of that I will not accept that excuse of "not PROPERLY cleaning" a beer fountain when covid is going around. Consuming maggots can cause a bacterial infection and @{location here} is allowing people to drink them! Completely unacceptable!! So please like this so the health department can go inspect this location! Tag friends to make sure they do not consume anything from this establishment.

**Review Match #: 2**

Rating: 1

Review: I received the worst customer service i have ever received in my life. On Sunday 01/17 i went to your 16th street Location I inquired about a table that seats six I was told since my party was not all there they will not be able to sit me so I asked to be seated for one until my party arrived the gentleman proceeds to say no I am sitting these two ladies that just walked up which was white. I said how is that possible I was here first so then I asked to speak with a manager the manager came out very rude very mean and stated I am not gonna sit you at one table just to move you to another table you need to rally up your troops and hurry up and have them get here you'll have to wait until they get here. He proceeded to say I need to move out the way i am holding up the line. the tone of his voice and the way he was yelling at me was very rude very degrading and humiliating. At this time i no longer wanted dine at this establishment . I have eaten at this establishment on a regular basis but this is the first i was ever treated in this fashion. I asked for the manager and his employee name and he refused to give it to me so i called and asked for the manager name and he said his name was Steve i then asked for corporate number he then told me i can google and get it myself.

**Review Match #: 3**

Rating: 1

Review: Today I have the worst experience in my 7 years in USA. I went to the location with my friends but I arrive the last one because I was looking for parking. I'm from Spain so I normally use my passport (that is considered legal document to use in USA for identification) because I'm not permanent resident in USA. I own a business in California but I also have business in Europe so normally I'm going back and forth. I got I new passport during Covid so I don't have any stamp on my "New passport" because I can't travel during this pandemic time but my passport was made it at the Spanish embassy in San Francisco. At soon the workers so my passport they call the manager and the manager asked me for the entry stamp ( just immigration can ask for the stamps, police neither). I try to explain to him why I don't have any entry stamp there but also mentioned he is not allowed to ask me for the stamp. His attitude was very rude and racist. All my friends try to explain him the same but he refused to leasing to anyone. Because he didn't let me to go inside I went to my house to bring my other passport with my visa with the stamp and instead of apologize he told me " don't come here anymore ". How a company can have a manager that is racist?. I will contact my lawyer and we will make a complain to the corporate because nobody deserve to by treated like that.

**Review Match #: 4**

Rating: 1

Review: Just popped in to stuff our face for happy hour and wish we didn't. We were greeted by (I presume) the manager who was sitting down, texting on his phone, who looked up from his screen to tell us someone would be with us soon. There was one table seated in the whole restaurant and three wait staff chilling inside. Some on their phones too. We got seated by a rather aloof waitress (short, dark hair). Ordered. Food came out, and we had to ask twice for the side sauces we requested from two different people. We never had our water refilled. We had to flag a waiter down to get a to-go box. We tried to flag a waiter down to get our check and had to walk into the bar to request the check. The waitress I spoke to popped out to give another table their check first. Only 4 tables seated and still 3 wait staff. We couldn't come up with a reason for such bad servive. I never feel passionate enough about service to write a review, but here we are. We live two blocks from UofB and have frequently enjoyed bringing friends here but will never be back. There are so many great restaurants in midtown with wonderful staff. This isn't one of them.

**Review Match #: 5**

Rating: 1

Review: The manager of the place is racist I guess he does not like foreigners I will never go there again. We came a group of 8 our friend who is from Spain came a little after us and the manager did not let him in. His excuse was that my friends pasaport which was new since the other one expired did not have a stump of entry to the USA. He did not have an old expired passport with him and I guess manager think he works at the border and not a brewery not to mention that we are all on our 40ies obvioisly over 21. Also their beer selection is so minimal. Skip this place and go to Sacyard brewery

**Review Match #: 6**

Rating: 1

Review: The rudest host ever!!!! Just because I asked if we can seat outside he gave us attitude I heard great things about this place but I had to leave because the guy that was in front too lazy to go ask if we could seat outside. Again it's super rude DONT GO TO THAT LOCATION

**Review Match #: 7**

Rating: 1

Review: NOT SAFE. Wanted to get a bite to eat but this place was so freaking crowded, and outdoor dining was still taking place even though other businesses on the same street closed their outdoor dining. I wanted to support this business but not anymore. This is how people get COVID.

**Review Match #: 8**

Rating: 2

Review: food/drink was fine, service had something to be desired. i was chased out, grabbed and accused of not paying my tab. probably will not go to this location again.

**Review Match #: 9**

Rating: 2

Review: Nice mix of people, good.beer selection super friendly servers..the older male manager has been rude on a number of occasions which keeps me.coming less and less. Servers make up for it they are nice every time we have gone. The food however most is subpar for the asking price..I dine well and often and have no issues spending..when it is worthwhile. A number of times with just 2 rounds and an appetizer and entree its been north of $75 to $100. I drop that weekly at a high end streak or shusi place..but a glorified college pub..nah fam..will be spending my monies on quality food and drinks instead. I do thank all the servers there for the friendly service and rembering who we are when we visit

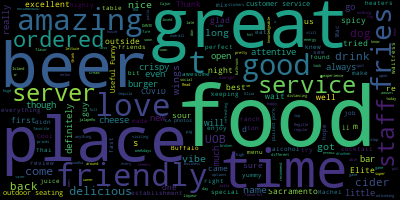
**Review Match #: 10**

Rating: 1

Review: All those TVs and they couldn't show the game that we came to watch. We even came early to get our seats. Manager basically said we were SOL! If I could give a zero rating I would. Eduardo was terrific by the way.

There was a lot of data there so let's unpack some of it. A good starting point would be to see what words appear the most in both data sets so I made a word cloud for each data set.

**High rated reviews**



**Low rated reviews**

