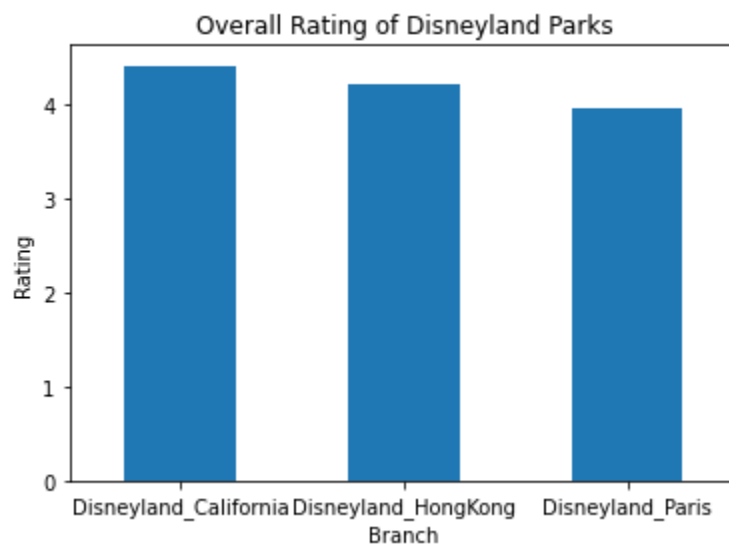
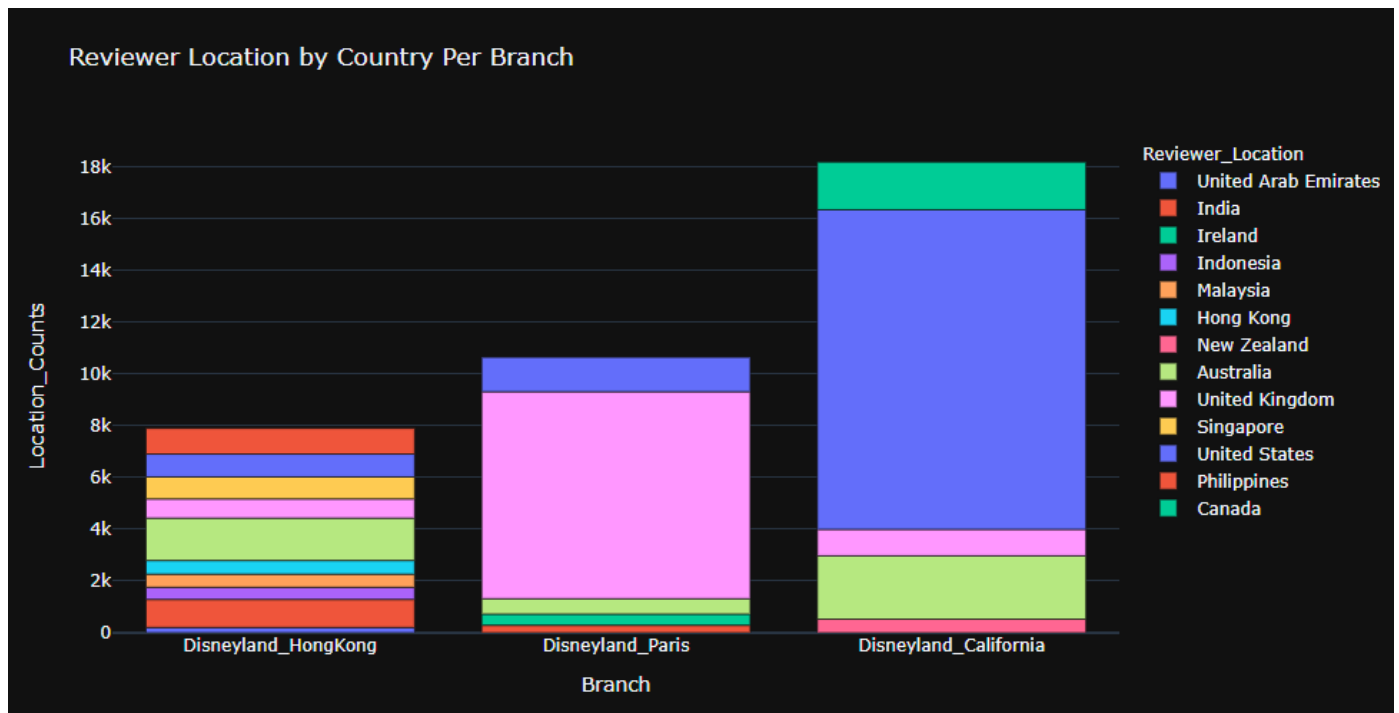


Disney is a multi-million dollar company and is well known for their movies, theme parks, and entertainment. Recently Disney has been investing billions of dollars into their theme parks to add in new areas and rides such as Star Wars and Marvel themed areas. As part of my data analysis I will be reviewing reviews of the Disney theme parks in Hong Kong, Paris, and California. Through my analysis I will research what theme park has received the best review ratings, where the reviews are coming from, and the most commonly used words for positive and negative reviews. As part of my research I will also attempt to predict a positive or negative rating based on reviewer feedback.

To start with I wanted to review the dataset. The dataset I will be analyzing has review ratings from TripAdvisor and contains roughly 43,000 reviews spread out across the 3 Disneyland parks. The reviews span from 2010 to 2019 and encompass ratings from 1 to 5. After reviewing the dataset, I wanted to take a look and see which park had the best and worst ratings. As you can see in the figure below Disneyland California had the best rating and Disneyland Paris had the worst rating.



Next I wanted to analyze where the reviewer locations were by theme park. The top reviewing locations by branch were as follows; Disneyland California - United States, Disneyland Paris - United Kingdom, and Disneyland Hong Kong - Australia followed by India. It is interesting to see that for Paris the top location is the United Kingdom rather than France and for Hong Kong the top location is Australia, although this may be due to the fact that China may have their webpage similar to tripadvisor.



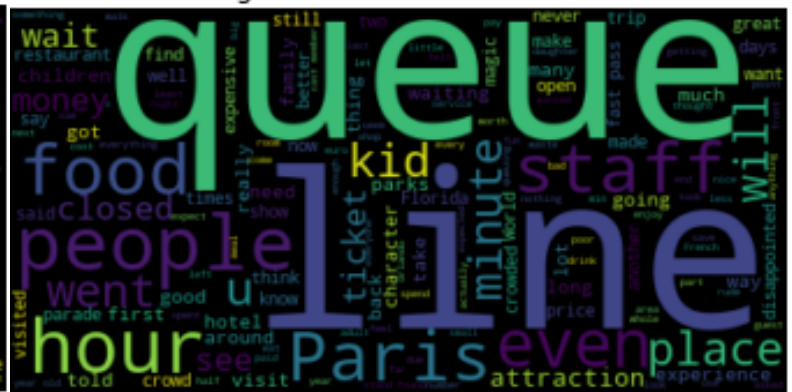
My next step in the analysis was to look and see what the top feedback was from a positive and negative standpoint for the Disney Parks. I decided the best way to approach this would be word clouds. In order to separate positive and negative reviews I considered any review greater than 3 a positive review and any rating less than 3 a negative review. Any rating that was 3 would be considered neutral and not used in the analysis. At first glance my word clouds were mainly focused around the words park, rides, and Disney so I decided to remove those from the analysis. After running the word clouds again, the main feedback for positive

reviews were kid, show, food, line, parade. Which leads me to believe that bringing your kids to the park is a positive experience, while also the food and parades. For the negative reviews the top feedback includes queue, staff, line, Paris, and hour which leads me to believe that most negative reviews possibly pertain to staff being unfriendly and the wait times in the park.

Positive Review Word Cloud



Negative Review Word Cloud



The final step of my analysis was to be able to predict whether a review would be positive or negative based on reviewer feedback. To start I needed to clean the data which I filtered out any reviewer feedback that was missing in the dataset. Then I created a new dataframe entry for sentiment which followed the positive/negative feedback that I had mentioned earlier. So for positive reviews with rating greater than 3 sentiment would be +1 and ratings less than 3 would be -1. Next I created a randomized train and test subset of the data and used sklearn vectorized the subsets. After the data was prepped, I used sklearn Logistic Regression to attempt to predict sentiment using the reviewer text. Based on my results the model came out to be about 95% accurate in predicting sentiment based on the review.

	precision	recall	f1-score	support
-1	0.70	0.80	0.75	695
1	0.98	0.97	0.97	7370
accuracy			0.95	8065
macro avg	0.84	0.89	0.86	8065
weighted avg	0.96	0.95	0.95	8065

Overall through my analysis, if I were to make recommendations to Disney I believe that they would need to look at making some adjustments to the Paris theme park. I think most of those issues stem around the wait times and staff which may require additional training for the staff and also making better use of the fast pass system to reduce wait times. In terms of predicting sentiment based on reviewer feedback I think the model does a pretty good job however there may be a need to better isolate the negative reviews as Disneyland has received overwhelmingly positive reviews.

References:

- 1) Vidalon, D. (2018, February 27). Walt Disney makes 2 billion euros investment in Disneyland Paris. Retrieved July 18, 2021, from <https://www.reuters.com/article/us-disney-france-investment/walt-disney-makes-2-billion-euros-investment-in-disneyland-paris-idUSKCN1GB1NT>
- 2) Wu, V. (2016, November 22). Hong Kong Disneyland to expand with \$1.4 billion investment. Retrieved July 18, 2021, from <https://www.reuters.com/article/us-walt-disney-hongkong/hong-kong-disneyland-to-expand-with-1-4-billion-investment-idUSKBN13H16L>
- 3) Smith, P. B. (2020, November 04). How Many People Visit Disney Parks Each Year? Retrieved July 18, 2021, from <https://disneynews.us/disney-parks-attendance/>

10 Audience Questions

- 1) What is the average attendance at each of these Disney parks?
Disneyland California - 18.66 million visitors (2019)
Disneyland Hong Kong - 5.695 million visitors (2019)
Disneyland Paris - 14.99 million visitors (2019)
Reference: Wikipedia.org
- 2) Are the Disney parks culturally biased?
Based on the attractions available at each park and the locations of viewers that have been visiting the parks I don't believe the Disneyland parks have any cultural biases.
- 3) When were the last enhancements to the parks made?
Marvel Avengers Campus will open in Disneyland Paris and California in 2021.
The Frozen themed area will open in Disneyland Hong Kong in 2022.
Reference:
<https://www.cnn.com/2021/04/08/media/disney-marvel-avengers-campus-opening/index.html>
https://en.wikipedia.org/wiki/Arendelle:_World_of_Frozen
- 4) Do all these parks have fast pass systems?
Yes, all these parks have fast pass systems however, with recent changes at the parks the fast passes will now cost extra and there will be no free fast passes.
- 5) How do each of these parks compare in terms of attractions?
Based on the theme park tourist, Disneyland Paris has 37 attractions, Disneyland Hongkong has 29 attractions, and Disneyland California has 36 attractions.
Source Link-
<https://www.themeparktourist.com/features/20140401/17257/numbers-comparison-disneys-theme-parks>
- 6) Are people more likely to post a review based on a bad experience?
Judging from the dataset, there are more positive reviews of the park than negative reviews. There are 33,000 positive reviews versus 3,600 negative reviews.
- 7) How do the review counts compare on good versus bad reviews?
There are 33,000 positive reviews versus 3,600 negative reviews in the dataset that I have analyzed.
- 8) What is the size of each of the parks?
Based on the theme park tourist, Disneyland Paris is 126 acres, Disneyland Hongkong has 68 acres, and Disneyland California is 72 acres.
Source Link-
<https://www.themeparktourist.com/features/20140401/17257/numbers-comparison-disneys-theme-parks>
- 9) How much does tickets cost at each of these parks? Is the exchange rate comparable to price?
Disneyland California - \$104 USD
Disneyland HongKong - HK\$838 (\$107 USD)

Disneyland Paris - \$105 USD

10) What time frame had the most reviews?

August 2015 had the most reviews posted with 616 reviews.