

An abstract graphic featuring a large, semi-transparent sphere with a color gradient from red at the top to blue at the bottom. A thin, white, glowing ring orbits the sphere in a figure-eight pattern. The background is a solid, vibrant blue.

Disneyland Reviews: What can we learn?

The Dataset

Disney Reviews

Textual reviews.

Metadata contains review *time*, reviewer *location*, *rating* and *branch*.

Volume & Time Frame

- Nine years: 2010 - 2019
- 3 Disneyland branches
- ~42K reviews

The Goals

- ❖ Uncover actionable insights
- ❖ Make data accessible through chat
- ❖ Serve as UI (evaluate and re-iterate)

Statistical Overview

Rating

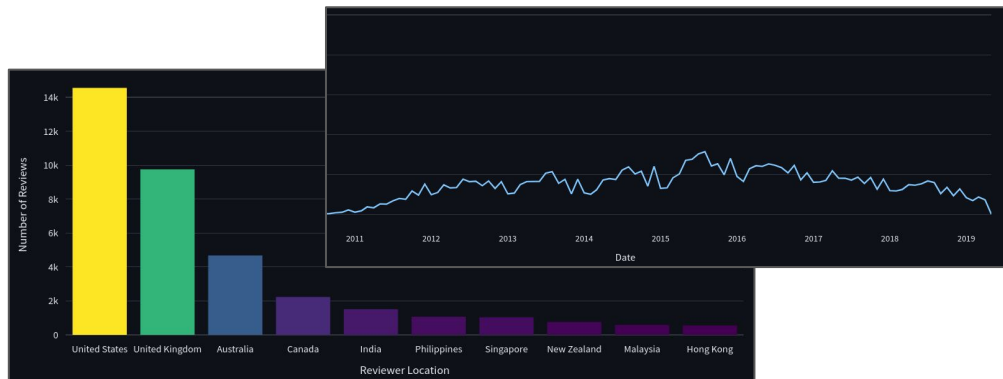
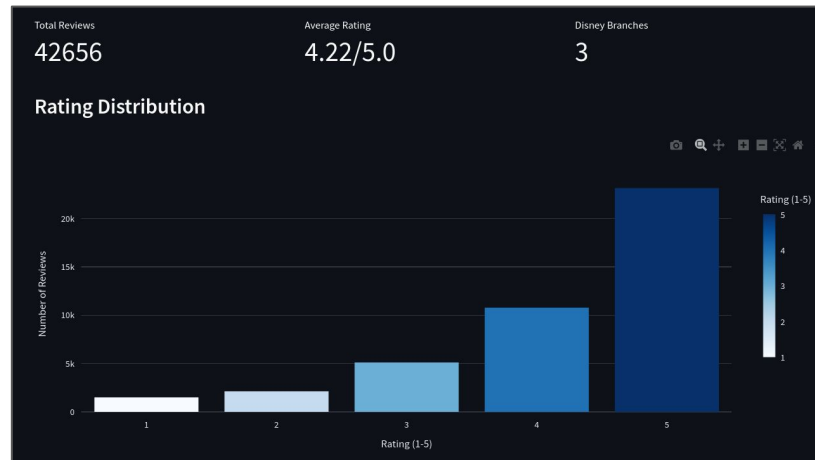
Very good overall rating, averaging **4.22** / 5

Sentiment

Sentiment is very positive, only **3%** negative

Locations

Most reviewers are westerners, majority from US, UK and Australia.



PoC Approach

First Iteration is FAST 🚀

- Use “old & familiar” NLP techniques (baseline)
- Use *langchain* for chatbot
- Serve as UI with streamlit
- Python, Python everywhere

Evaluate & Reiterate

- Use the UI to test the results
- Optimize one module / aspect at a time
- Collect feedback from SME / Domain experts



Components

Sentiment Analysis

- Classify reviews to *Positive* / *Negative* / *Neutral*
- Using the [Textblob](#) module (NLTK based)

Keywords Extraction

- *Words* and *Bigrams* by frequency
- Text cleaning (stopwords, digits, lowercase)

Insights

- Segmented into categories
- keyword based matching (baseline)

Vector Database

- OpenAI embedding
- [Chromadb](#) database
- Caching (persistence over sessions)
- Multiple filters: branch, location, rating, etc.

Chatbot

- Free text input
- Automatic extraction of filters
- Configurable temperature
- Use review excerpts only, include references

Initial Results

Streamlit app

- Dashboard: overall statistics
- Insights and recommendation: by category, with references
- Chatbot: free text communication, with references

Insights & Recommendations

Staff and Service Rides and Attractions **Food and Dining** Cleanliness and Maintenance Wait Times and Crowds Value for Money Overall Experience Logistics and Operations

Food and Dining Insights

Recommendations

1. Review pricing strategy for food and beverages
2. Increase variety of food options, particularly healthy choices
3. Improve quality control processes for food preparation and service

Supporting Insights from Reviews

Insight 1 (Score: 0.54)

Insight 2 (Score: 0.47)

Insight 3 (Score: 0.45)

Disney Parks Review Q&A



What people think of the cleanliness in the Hong Kong branch?



Based on the customer reviews provided, opinions on the cleanliness of Disneyland Hong Kong vary, but there are several positive remarks that highlight the park's cleanliness.

1. Positive Impressions of Cleanliness:

- Review 2 mentions that Disneyland Hong Kong is "spotlessly clean," indicating a high standard of cleanliness during the visit.
- Review 3 states that the park was so clean that one could "almost eat off the pavement," which emphasizes the meticulous upkeep of the park's grounds.
- Review 4 also notes that the park is "very clean and well maintained," with clean and air-conditioned restrooms, further supporting the positive sentiment regarding cleanliness.
- Review 5 echoes this sentiment, stating that the place is clean and that the bathrooms are well-maintained. The reviewer also mentions that utilities clean up after guests, which suggests a proactive approach to maintaining cleanliness.

2. Mixed Feedback:

- Review 1 presents a more neutral perspective, acknowledging the hard work of the staff in keeping the park clean but also comparing it unfavorably to Disneyland Orlando, describing it as "noisier and dirtier." This suggests that while efforts are made, there may be areas for improvement in comparison to other Disney parks.

Evaluation

Insights: baseline analysis

- The baseline already provides some valuable and actionable insights, to name a few:
 - Increase variety of food options, particularly healthy choices
 - Add more trash receptacles throughout the park
 - Better communicate expected wait times and peaks to help visitors plan their day

The next step could be to consult with domain experts and define **KPIs / metrics** to rank insights.

Chatbot: initial results

- Initial chatbot version appears to be working quite well, sample questions were answered well
 - Comprehensive answer, covering different aspects
 - References included, so users can easily verify the groundedness of the answer

The next step should be to serve the chatbot to domain experts and collect feedback.

Evaluation Approaches / Human Feedback

Chatbot: Possible Evaluations

- Human feedback
- Compare against a reliable set of Q&A pairs
- LLM as judge

Insights: Possible Evaluations

- Human feedback
- Compare against known set of insights
- LLM as judge

