

Springboard:

Data Science Career Track Program

Capstone Project 2 Proposal

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Hotel

Reviews Sentiment Analysis Proposal

1) What is the business problem?

- Reading reviews when choosing a hotel may take hours or a considerable amount of time, sentiment analysis eases the procedure, and helps customers learn about the hotel without going through all the reviews, and hotels understand what guests are happy or not happy with. Travel agencies and booking services often provide a score between 1 – 5, however that score is not very helpful for managers as they provide little to no information of what guests considered positive or negative. To extract that from the textual reviews provided by the guests can provide vital information that may help the managers make better decision and keep the future customers happy.

2) Who are the intended stakeholders, and why is this problem relevant to them?

- The dataset is collected from Booking.com, the analysis of this can help them make a better search engine that provides their customers with the best hotel with their

budget, and list a few characteristics extracted from the sentiment analysis done on the previous reviews provided by previous customers.

3) Where are the datasets available from?

- The dataset is available on [Kaggle](#).

4) What data science approaches do you anticipate you will use to model the business problem as a data science problem?

- For this business problem, we will use an opinion making/sentiment analysis which is a technique of Natural Language Processing (NLP). Since textual data is not always clean, we will be cleaning it up by removing noise, stop words, normalization, stemming, and lemmatization. We will also be using the process of words embedding as we need to turn words and phrases into numeric or vector representation. Some of the libraries we can expect are NLTK, Scikit-learn, Gensim, etcetra. Some of the models we can expect are Random Forest, XGBoost, Naïve Bayes, and others will be considered.

5) How do you anticipate that the intended clients will use the results of your CP2 to address the original business problem?

- After establishing the alignment between the business goals and the appropriate performance metrics, models will be ranked ranked with respect to these metrics, which will result in an explanation to the managers on how to better the experiences of their future customers.
- Interpretability analyses will hopefully lead to identifying patters that impact the satisfaction of a customer and make better analysis on recommending hotels based off scores provided by the customers.

