Project Increment 1

Related Work

This is a Natural Language Processing project of which focus is on sentiment analysis. We would like to extract meaningful phrases from reviews and classify them into most important features (and possibly their ratio) that hotels need to distribute their resources accordingly.

Dataset

The dataset was taken from Kaggle: https://www.kaggle.com/andrewmvd/trip-advisor-hotel-reviews which includes 20491 rows x 2 columns where rows represent reviews of customers who have experienced hotel services and columns are of the review content and their ratings.

Detail Design of Features and Analysis

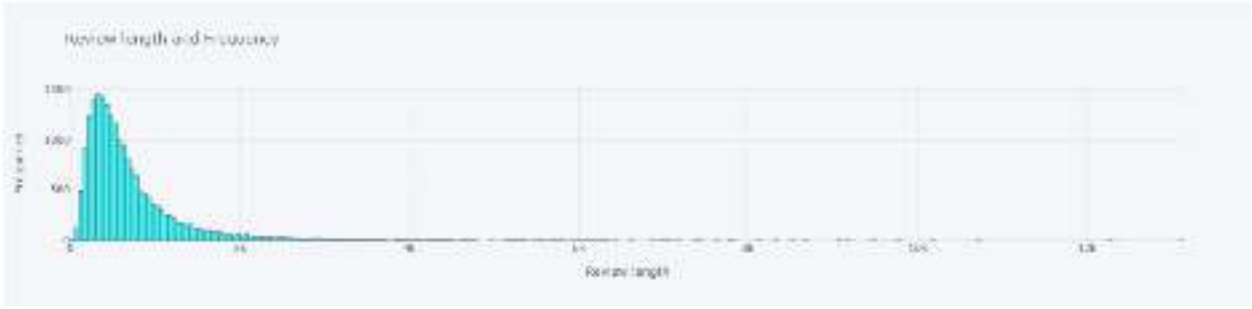
- Punctuation removal
- Exploratory analysis, such as review length vs frequency, or review length vs ratings
- Word cloud generation
- Spacy library's rule-based matching
- Review phrase extraction
- Clustering phrases / classification with the support of word vectors

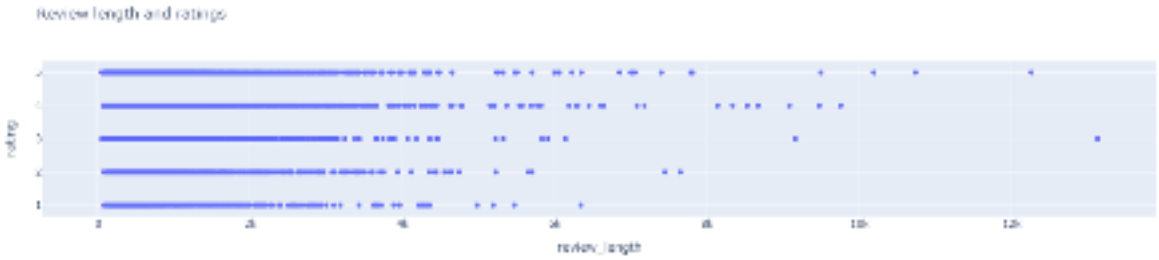
Implementation

Please find the code attached.

Preliminary Results

- We can see the pattern that those who are more satisfied are more likely to give reviews. Also, the data set is not balanced among ratings.





Project Management

Implementation status report

Work completed:

- Punctuation removal
- Exploratory analysis, such as review length vs frequency, or review length vs ratings
- Word cloud generation
- Spacy library's rule-based matching
- Review phrase extraction

Work to be completed

- Clustering phrases / classification with the support of word vectors

Issues / Concerns

- Should we use word vector to find the similarity of the extracted phrases with hotel's common features?

- Should we use a pretrained model?
- Should we cluster them and find the similar content of the phrases?

Github link: https://github.com/teohangxanh/5290/tree/master/Project

Works Cited

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