Forecasting Film Review Sentiment using Ratings and Reviews from a Rating Database

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Introduction

An effective evaluation of films and TV shows plays a crucial role in helping fans make informed choices about what to watch. Numerous databases utilize audience ratings to assess the quality of movies and TV works. However, it is important to acknowledge that ratings can be subjective. For instance, fans often tend to give high scores to works they love. Therefore, instead of solely relying on standardized ratings, many TV enthusiasts prefer to read audience comments to better understand their opinions expressed through language. My Anime List (MAL) [2] is a prominent database focusing on anime evaluations. It gained popularity because users typically provide objective ratings for the works they enjoy. In this project, we are going to utilize audience feedback and their corresponding ratings to develop a model that can assess the overall sentiment of the viewers.

Data

The My Anime List Comment Dataset (MALCoD) provides comprehensive data from the MAL website. The `"animeReviewsOrderByTime.csv"` data file contains a vast collection of English reviews along with their corresponding ratings. Additionally, the dataset includes supplementary information such as post time, user ID, usefulness rating by other users, and the number of episodes the author watches. This study will use the review text and overall rating to train the model. However, the remaining data may prove valuable for data cleaning or model testing tasks. Detailed figures showcasing the general information of the dataset are presented below: (figure.1)

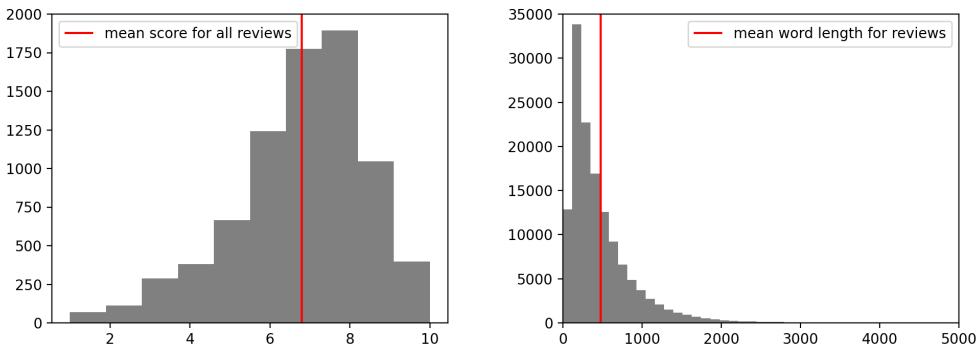

Figure 1: Left: The average scores the reviews give toward all anime, Right: the average word length of the reviews

Figure 1 shows the distribution of the scores given to the anime and the total length of reviews reviewers give to the anime. The distribution of the average score quite follows the normal distribution, which suggested the feasibility of prediction. The distribution of word length is quite

following the acceptable distribution for the NLP models – most of the reviews have less than 1500 words, so we can build a cutoff at this word length.

Analysis plan

Approach: Train model on MAL open source anime review dataset

In this approach, we will build up a language model using the MAL dataset. The model can be used to determine the attitude of the review toward the anime. The score given by the reviewer is used to train the model. The model will further be tested on other datasets, such as IMDB [1], and revised based on the result of testing.

Problem: Prejudice rating

While rating TV shows with comments allows most people to provide a reasonable score, there is still a significant number of individuals who score shows based on prejudice. For instance, some may give a show a low rating of one star accompanied by a simple one-word review like "Boring." (figure.2)

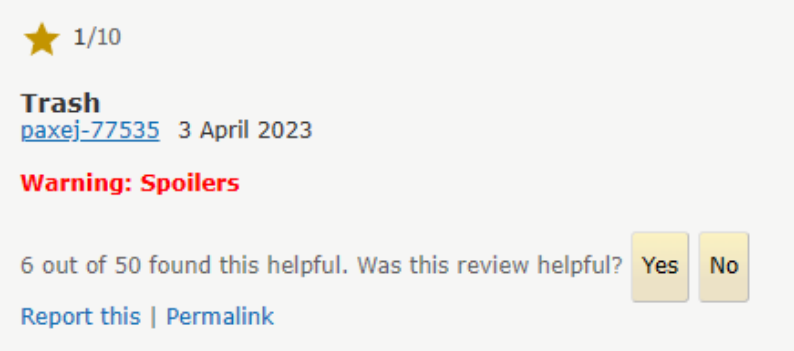

Figure 2: Some prejudice reviews

These reviews do not offer any meaningful assistance to other audiences, and their scores may not be reliable indicators of their attitude. We noticed that mostly they would give a very short review of the film. So, to address this issue, we can develop an evaluation system that examines the relationship between the audience's score, the length of review comments they leave, and the overall rating. The evaluation can help to pick up the bad commons and drop them out while training.

References

[1] IMDB. Imdb, an acronym for internet movie database comment dataset, May 2023.

[2] NatLee. Myanimelist comment dataset (malcod), May 2023.