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Rating Reviews System Based on Sentiment Analysis

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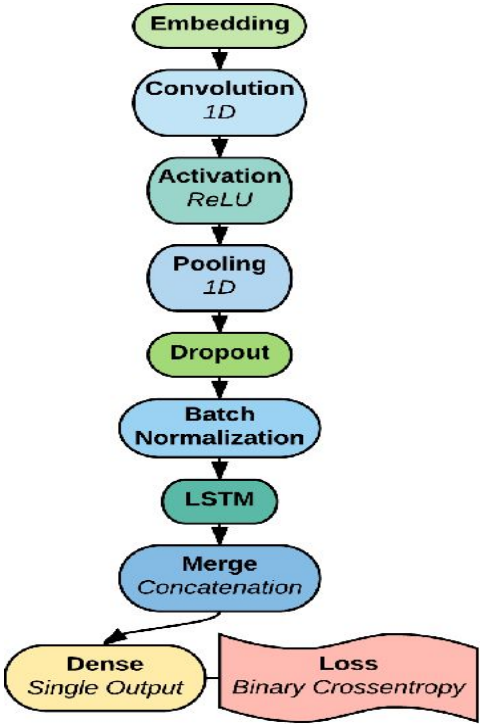
Introduction

- Whenever we want to watch a movie, the general thing to do is go on IMDb, check out which movie has a good rating and reviews and then select.
- However, those ratings are given by the registered users, not all the people watching the movie.
- On the other hand, when we try to read the reviews, we can just read 5-10 reviews and then we try to judge how the movie will be like.
- What if there was a way to know how the movie is reviewed by ALL the people watching it and posting reviews on IMDb, and what if you can get the top words that are used to describe the movie?

Related Work

- CNN and LSTM has been used in this paper [1].
- Purpose: To enhance the accuracy and improving the overfitting.
- Dataset: IMDb reviews.
- Accuracy of 89.5%.

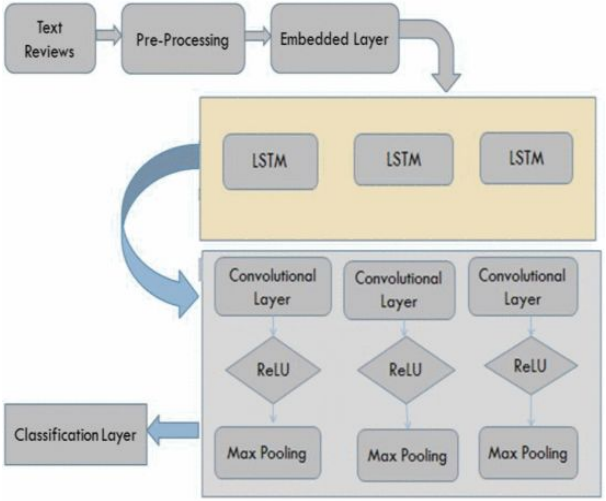


Their Architecture

1.- A. Yenter and A. Verma, "Deep CNN-LSTM with combined kernels from multiple branches for IMDb review sentiment analysis," 2017 IEEE 8th Annual Ubiquitous Computing, Electronics and Mobile Communication Conference (UEMCON), New York, NY, 2017, pp. 540-546.

Related Work

- Using a combination of deep learning approaches LSTM and CNN in [3].
- Dataset: IMDb movie reviews.
- Two models were proposed: The first model was a hybrid LSTM-CNN, which performs better than the second hybrid CNN-LSTM model.
- Accuracy achieved was 79%.

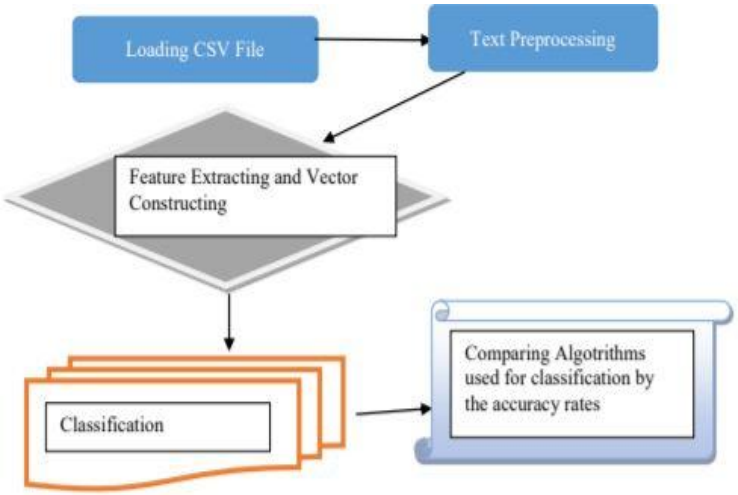


Their Architecture

3- A. Sajeevan and L. K. S, "An enhanced approach for movie review analysis using deep learning techniques," 2019 International Conference on Communication and Electronics Systems (ICCES), Coimbatore, India, 2019, pp. 1788-1794.

Related Work

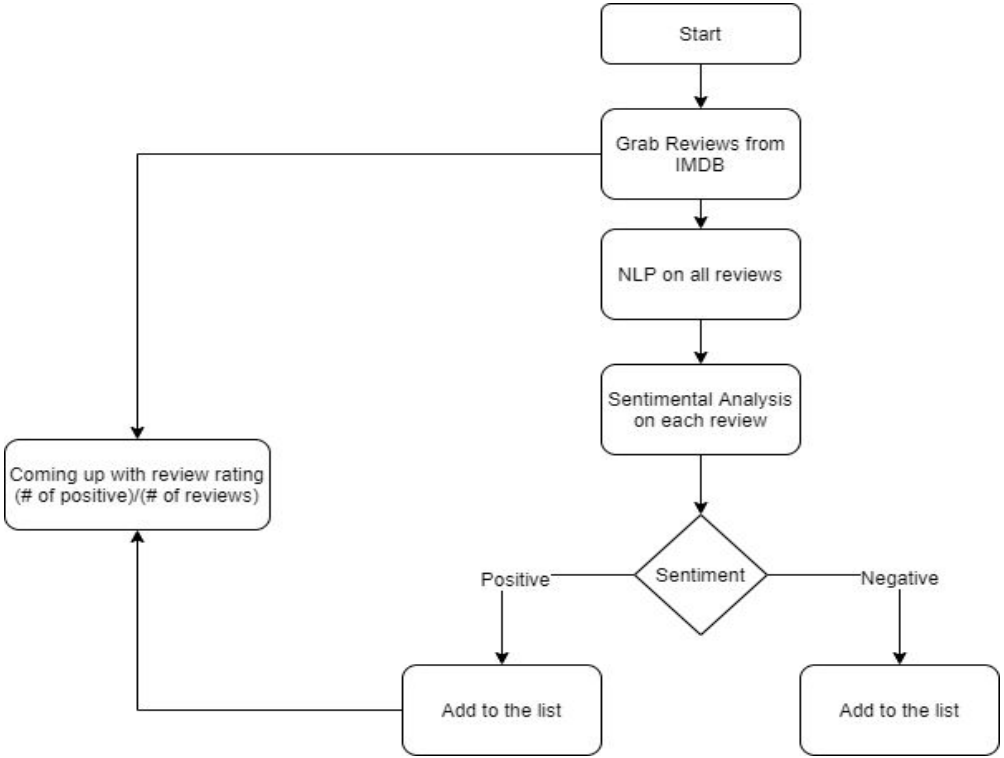
- A new way of sentiment analysis was proposed in [5] by using Bayesian Rough Decision Tree, which uses the Decision Tree and Bayesian Rough set combined.
- 95% accuracy.



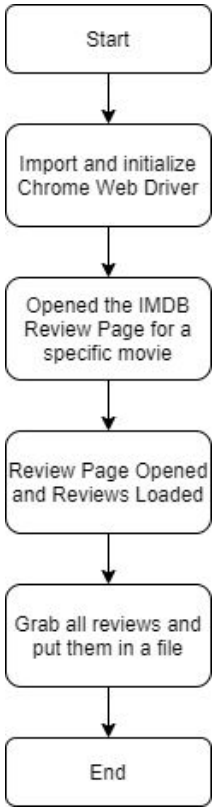
Their Architecture

5- İ.Tarımer, A. Çoban, A.E. Kocaman. "Sentiment Analysis on IMDB Movie Comments and Twitter Data by Machine Learning and Vector Space Techniques" 2019.

Proposed Work



Grabbing the Reviews



Demo!

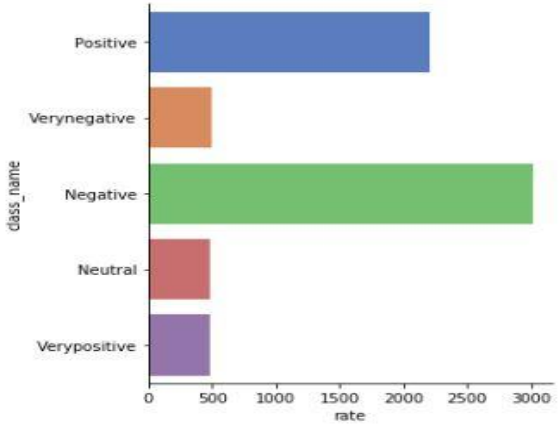
YT link: https://youtu.be/jF7Z9FDX8fU

Implementation and Evaluation

Sample Movie chosen: **The Dark Knight**

IMDb Rating: **9.0**

No. of reviews at the time of experiment: **6664**



Name	∫ reviews	∫ positive
The dark knight	6664	2203
∫ Negative	**∫ Neutral**	**∫ Very Positive**
3011	479	480
∫ Very Negative	**% of all Positive**	
490	4.026714693081194	

Results

Positive Percentage Rating: 40%

Negative Percentage Rating: 52%

Conclusion

- Our project extracts the movie reviews (dataset) from the IMDb website in real time, and then provides ratings for movies based on the sentiment of those reviews.
- This project not only gives the positive rating but also negative ratings.
- Also, this project provides word clouds for both positive and negative sentiment to the users for them to post on social media.

Future Work

This project can be extended to develop a web app, on which users can go and type in any movie they would like to get the rating for and also get the word clouds to share on their social media.

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References

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Any Question ??