CSE 523 Machine Learning Project Report
Movie Recommender System
weekly Report

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Content based Recommender System:

Task completed:
The two content based engines are build of which :

- one that took movie overview and taglines as input
- the other which took metadata such as cast, crew, genre and keywords to come up with predictions.

We also devised a simple filter to give greater preference to movies with more votes and higher ratings. Here, the Cosine Similarity is used to calculate a numeric quantity that denotes the similarity between two movies. Mathematically, it is defined as follows:

$$cosine(x, y) = \frac{x.yT}{||x||.||y||}$$

The dot product returns the cosine similarity score directly. The matrix will be generated which will contain the pairwise cosine similarity matrix for all the movies in our dataset. Then we return the 30 most similar movies based on the cosine similarity score.

Outcome of the task performed:

- Understanding the method to be used for content based filtering
- Usable keywords to procure filter to implement the model:
    - Director Name
    - Movie name
    - Tag lines
    - Crew

Task to be performed in the upcoming week :

- Implement the structure of code for the cosine similarity to prepare the model for content based filtering.
- Calculating the score and recommending the movie on the basis of the prepared cosine based pairwise matrix.
- Further implementing a recommendation system providing relative suggestions with respect to user's choice and other similar user's choice.

References

- a)A. Mukherjee, "Building a recommendation system using weighted-average score," *Medium*, 16-Sep-2019. [Online]. Available: https://medium.com/@developeraritro/building-a-recommendation-system-using-weighted-hybrid-technique-75598b6be8ed. [Accessed: 19-Mar-2022].
- b)Rounakbanik, "Movie Recommender Systems," Kaggle, 06-Nov-2017. [Online]. Available: https://www.kaggle.com/code/rounakbanik/movie-recommender-systems/notebook. [Accessed: 19-Mar-2022].