CSE 523 Machine Learning Project Report
Movie Recommender System
weekly Report

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Collaborative and Hybrid system implementation :

Task Completed :

- Estimate the rating from the dataset available for the particular user .
- The estimation implementation is done through recommendation matrix from the output of SVD algorithm.
- We have used the Surprise library that used extremely powerful algorithms like Singular Value Decomposition (SVD) to minimize RMSE (Root Mean Square Error) and give great recommendations.

Outcome of the task performed:

```
svd.predict(1, 31)
```

```
Prediction(uid=1, iid=31, r_ui=None, est=2.3911628669370923,
```

	userId	movieId	rating
0	1	31	2.5

- Here user 1 has rated the movie id 31 as 2.5 rating out of 5.
- The svd predictor undergoes cross validation and k-fold process and tries to estimate the rating for the movie id 31.
- The rating comes out to be estimated to 2.39 which can be considered as a good estimation.

Task to be performed in upcoming week:

- Implementation of the fully working of the hybrid recommender.
- The hybrid system would make recommendations on the basis of estimated user rating which would consider the personal user taste and the conditions from the cosine similarity which was used to implement the content based recommender by using the various factors like cast, crew, overview, tagline,etc.

References :

- https://analyticsindiamag.com/a-guide-to-building-hybrid-recommendation-systems-for-beginners/
- https://realpython.com/build-recommendation-engine-collaborative-filtering/#:~:text=Collaborative%20filtering%20is%20a%20family,type%20of%20collaborative%20filtering%20approach.
- https://rdrr.io/cran/bcv/man/cv.svd.html
- https://stackoverflow.com/questions/56273351/how-to-validate-test-set-on-trained-svd-model