**Evaluation of Movie Recommender System**

**Project 19, Group 19**

* We have evaluated the Matrix Factorization and Cosine Similarity based movie recommendations using the following metric:

**RMSE (Root Mean Square Error):**

RMSE is the standard deviation of the prediction errors and is popularly used as an evaluation metric for recommender systems. RMSE can be defined as,

where are the total number of samples in test data, is the estimated value and is the ground truth (here ratings).

After implementing the Matrix Factorization and Cosine Similarity, we got the following results:

|  |  |
| --- | --- |
| **Algorithm** | **RMSE** |
| Cosine Similarity | 1.0132 |
| Matrix Factorization using ALS | 1.0062 |

* We evaluated the LSTM based movie recommender model using the metric **Accuracy**

**Accuracy:** Here, accuracy will be the number of times the movie that the user watches next based on his past watch history is correctly predicted.

After implementing the LSTM model, we got the following results:

|  |  |
| --- | --- |
| **Algorithm** | **Accuracy (%)** |
| LSTM | 60.54 |