

RECOMMENDER SYSTEMS DOC

- Dataset Used : [MovieLens 1M dataset](#)
- Models Developed : Collaborative, Collaborative along with Baseline approach, SVD, SVD with 90 per cent energy, CUR, CUR with 90 percent energy, Latent factor model
- Metrics Evaluated : RMSE(Root mean square error), MAE(mean absolute error)
- Important Details:
 - Handling Strict and generous raters : Ratings for each user is normalised i.e. each from user's rating his mean over all ratings is subtracted.
 - Collaborative Filtering and Collaborative Filtering with Baseline : 100 nearest neighbours chosen and user based collaborative filtering is done
 - SVD : top 7 sigma values chosen
 - Latent Factor : 10 factors chosen
- Evaluation

Model	RMSE	MAE	Time
Collaborative	1.520	1.0719	0.0789
Collaborative with Baseline	1.577	1.114	0.081
SVD(top 7)	0.199	0.052	1.460
SVD with 90% energy	0.192	0.0471	2.019
CUR	0.226	0.041	0.046
CUR with 90% energy	0.2049	0.033	0.011

Latent Factor	1.200	0.885	9.691
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- Experiment with K in Latent Factors

K	RMSE	MAE
10	1.205	0.890
20	1.195	0.884
30	1.201	0.890

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