

CSE-472

Offline 3: Matrix Factorization for Recommender System

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1. Hyperparameter Tuning:

K	Lambda U	Lambda V	RMSE of Training Dataset	RMSE of Validation Dataset
5	0.01	0.01	3.7453	4.2625
10	0.01	0.01	3.3824	4.5690
20	0.01	0.01	2.7415	5.6794
40	0.01	0.01	1.5758	7.8838
5	0.1	0.1	3.7658	4.2631
10	0.1	0.1	3.3841	4.4281
20	0.1	0.1	2.7547	5.0874
40	0.1	0.1	1.5617	6.6451
5	1.0	1.0	3.7345	4.1916
10	1.0	1.0	3.3603	4.3596
20	1.0	1.0	2.7545	4.9516
40	1.0	1.0	1.5666	6.3914
5	10.0	10.0	3.7499	4.2193
10	10.0	10.0	3.3770	4.3774
20	10.0	10.0	2.7489	4.9950
40	10.0	10.0	1.5739	6.4455

2. Final Model:

K	Lambda U	Lambda V	RMSE of Total Training Dataset	RMSE of Test Dataset
5	1.0	1.0	3.8071	4.1535

