

STAT 578 Spring 2018 Homework 1

Jifu Zhao

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(a)

Table 1: Summary of Cross Validation

RMSE/Model	Linear Regression	KNN
CV 1	1.13332	1.15368
CV 2	1.11352	1.13066
CV 3	1.09645	1.11158
CV 4	1.09598	1.11329
CV 5	1.09997	1.11868
Mean	1.10785	1.12558
Std	0.01424	0.01556

(b)

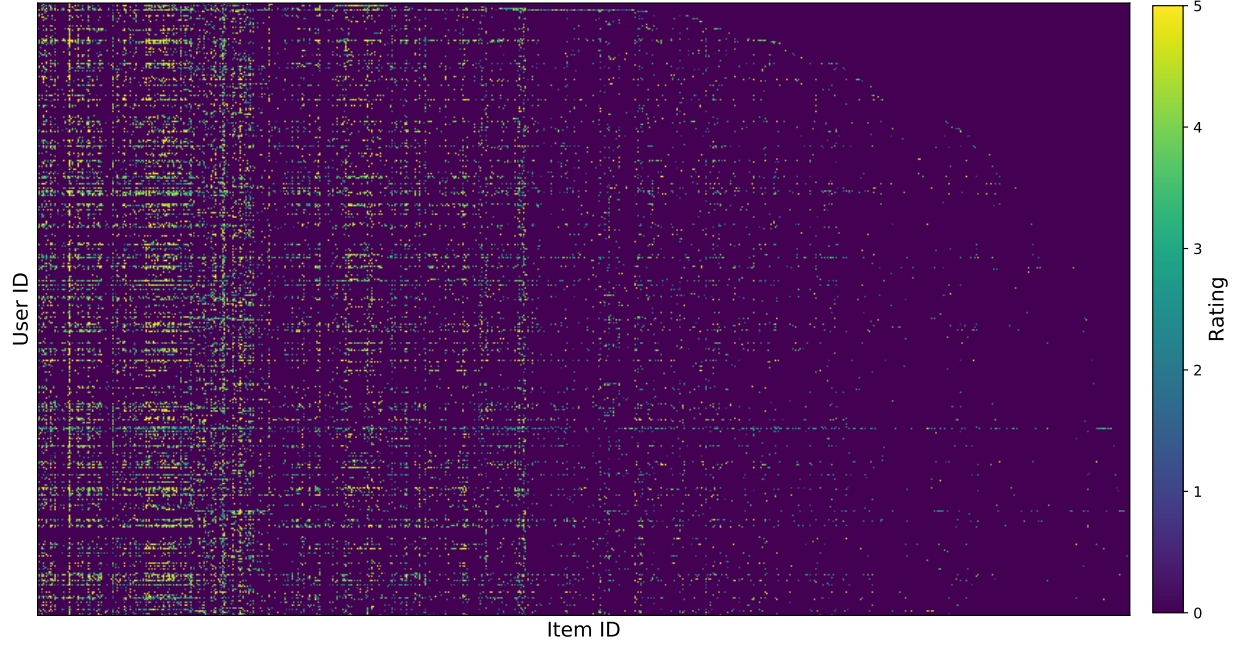


Figure 1: User-item utility matrix

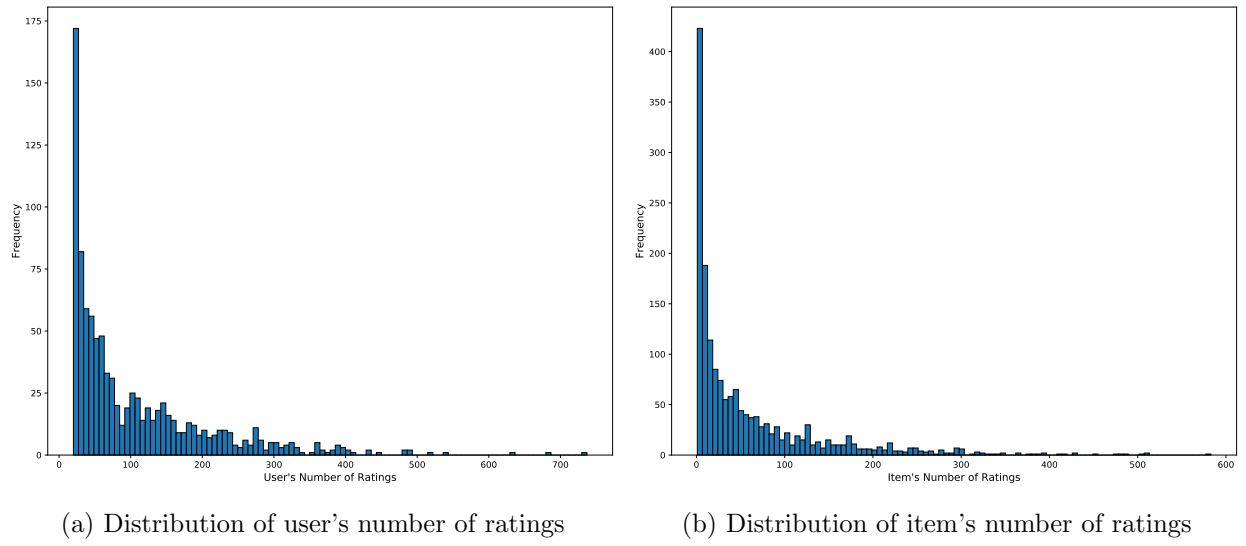


Figure 2: Distribution of User's / Item's number of ratings

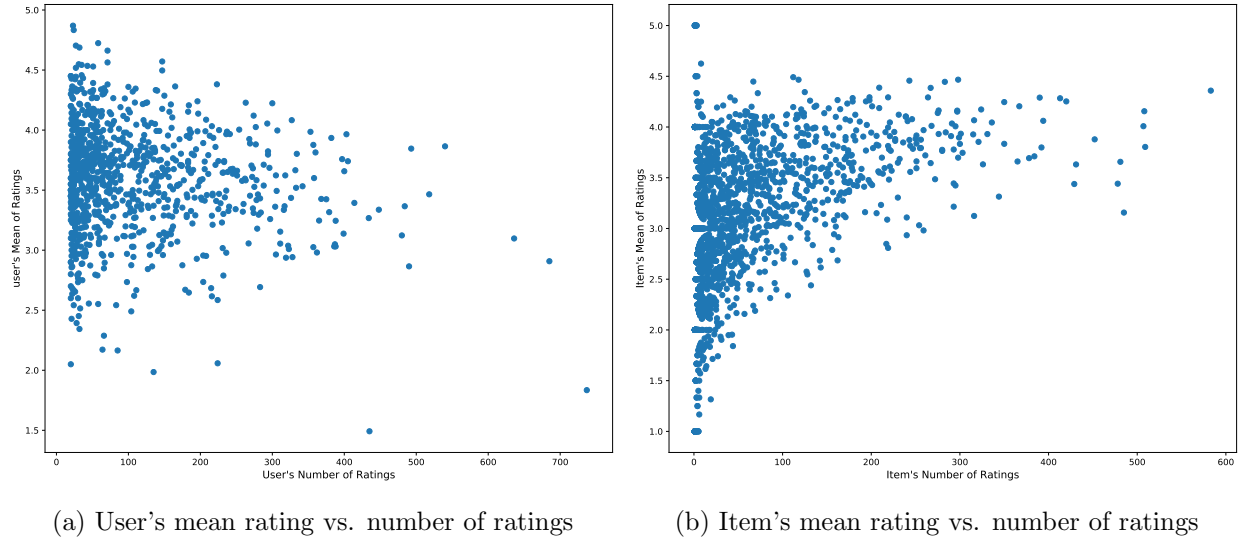


Figure 3: Mean ratings vs. number of ratings

(c)

Table 2: Summary of Cross Validation

RMSE/Model	Linear Regression	KNN
CV 1	1.10348	1.12234
CV 2	1.08674	1.10264
CV 3	1.07505	1.08820
CV 4	1.07059	1.08572
CV 5	1.07674	1.09375
Mean	1.08252	1.09853
Std	0.01173	0.01325