CSC 395 Information Retrieval

Fall 2019

Worksheet #03 (Class Activity)

**Collaborative Recommender Systems**

Consider the following ratings table between six users and eight items. The users have rated the seen movies at the scale of 1~10. We may want to predict the rating of each unseen movie for each user and recommend the most “likely one”.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | LOR1 | LOR2 | KungfuP | CRA | SuperMan | Spiderman | GoGalaxy | Godfather |
| Linh | ? | ? | 7 | 10 | 4 | ? | 4 | 3 |
| Rex | 9 | 8 | ? | ? | 6 | 6 | 4 | 9 |
| Abby | ? | ? | 4 | ? | 7 | 7 | 6 | ? |
| Emily | 6 | 7 | ? | ? | 8 | 7 | 8 | 3 |
| Jack | 9 | ? | 7 | 7 | 6 | ? | ? | 10 |
| Erin | ? | 9 | 9 | 6 | ? | ? | ? | ? |

1. Predict the values of unspecified ratings of user Jack using user-based collaborative filtering algorithm. Use the Pearson correlation with mean-centering. What will be the one movie that your system would recommend to Jack?
2. Predict the values of unspecified ratings of Jack using item-based collaborative filtering algorithm. Use the adjusted cosine similarity. What will be the one movie that your system would recommend to Jack?