

## MMSR Lab 1

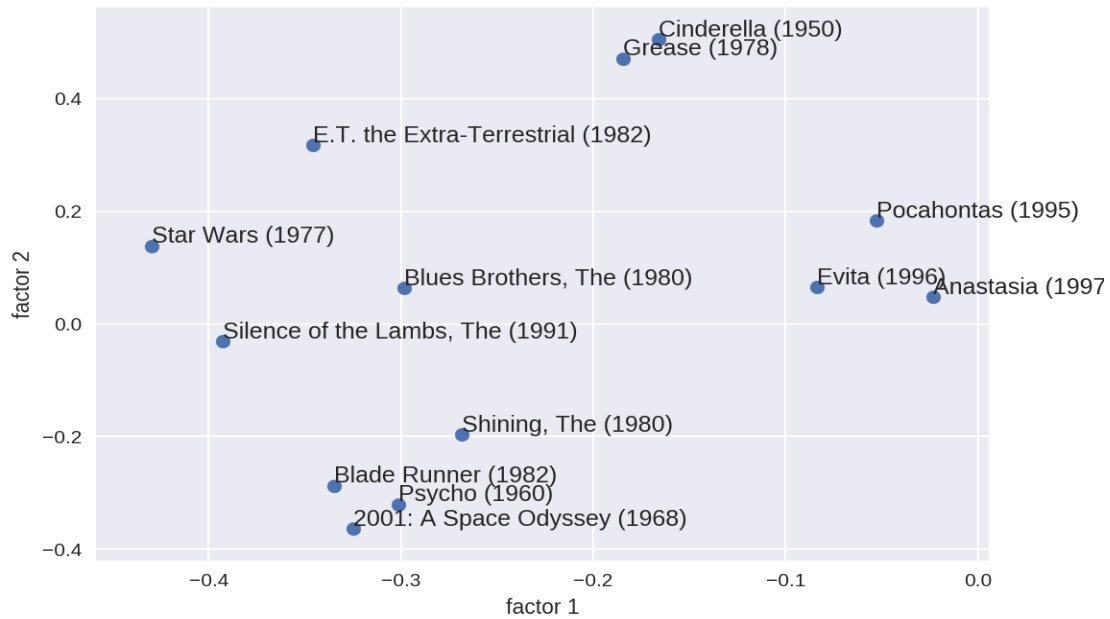


Figure 1. 200 users who rated most of the selected 13 movies.

It's a little vague what the factors really are, but factor 1 can possibly be how musical the movies are (as Anastasia is to the far right) and factor 2 can be how fairy-like the movies are (as Cinderella are towards the topmost).

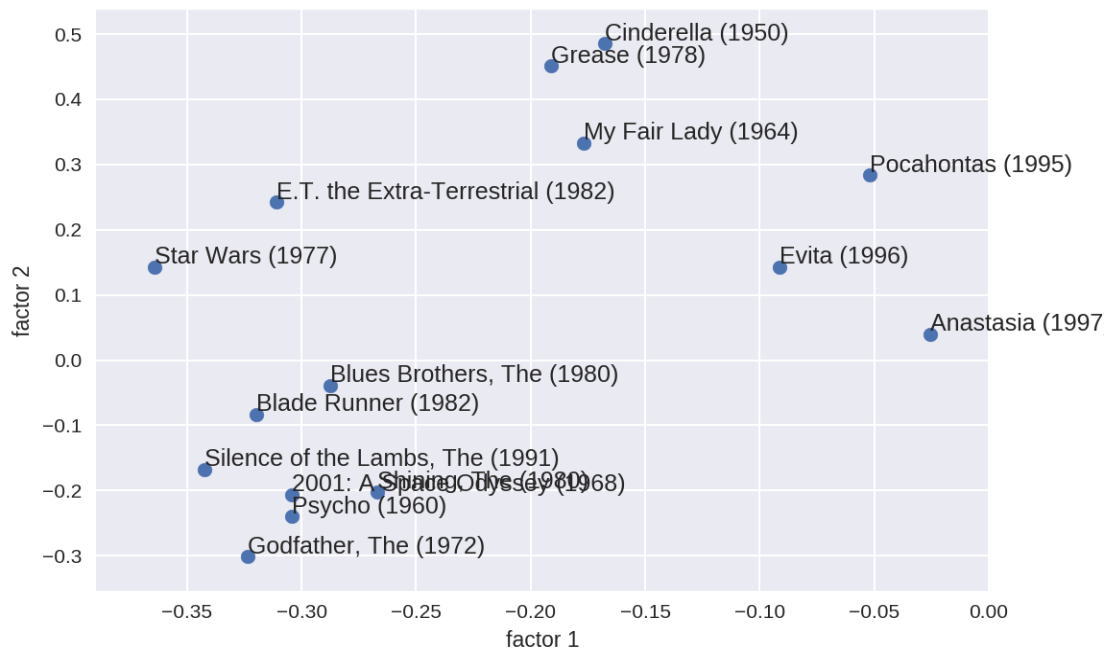


Figure 2. 100 users who rated most of the selected 15 movies

In this plot, we added two more movies and observe the same tendency. My Fair Lady, for example is to the top of the plot, which is more romantic and fairy-like. Godfather, on the other hand is toward and left-bottom, which is more horror-like. Therefore, we would interpret the axes similar to the first plot.

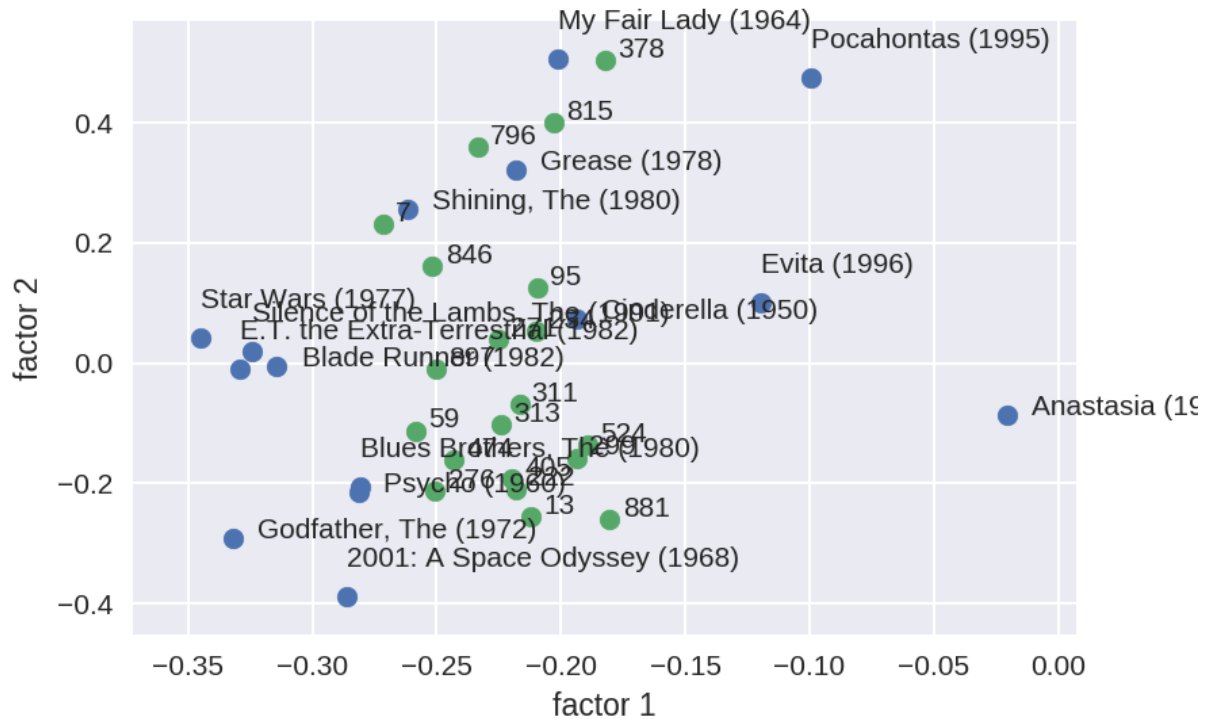


Figure 3. 20 users who rated most of the selected 15 movies

In this plot, only 20 users are considered. We plot them together and wish to find the interpretation of the axes by looking at the user information. However, it's still hard to interpret since a user can rate very different movies with high scores. However, it's clear that similar movie genres are clustered together.

We conclude that the axes are dependent to the genre and plot keywords of the movies [1].

As can be seen in the Figure 4, using all the users doesn't result in good clustering.

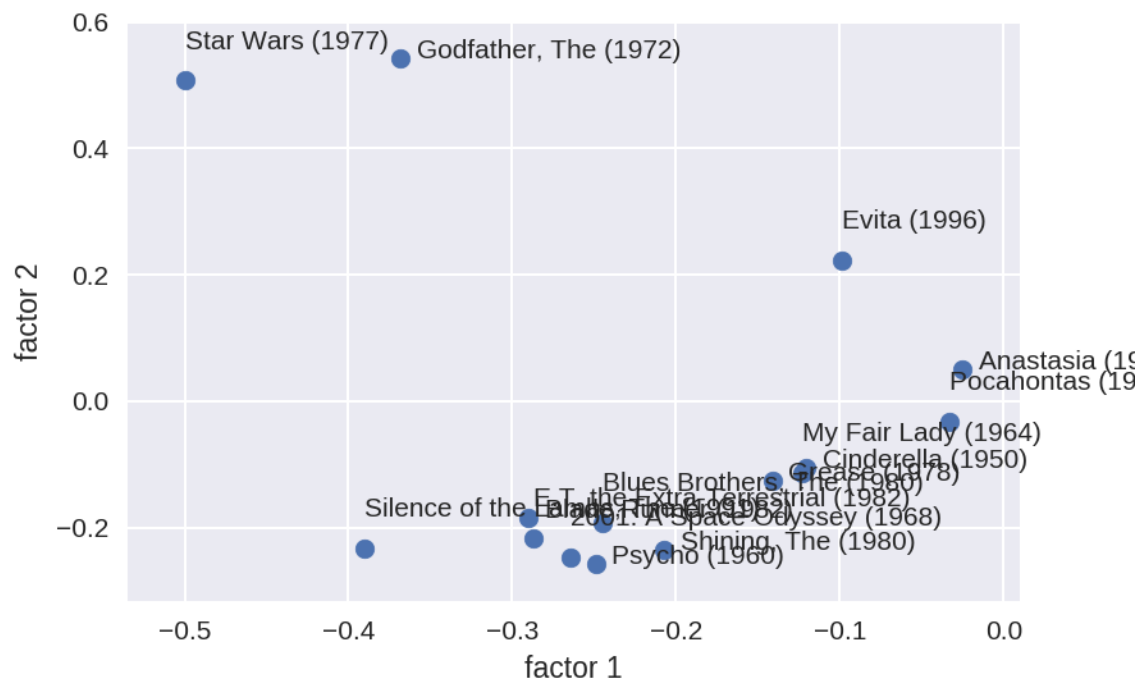


Figure 4. Plot with all users who has at least one rating of the selected movie.

[1] Datta, Anupam, et al. "Latent Factor Interpretations for Collaborative Filtering." arXiv preprint arXiv:1711.10816 (2017).