

# CS 155 Project 2 Visualizations

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## 1 Visualizations for Part 4

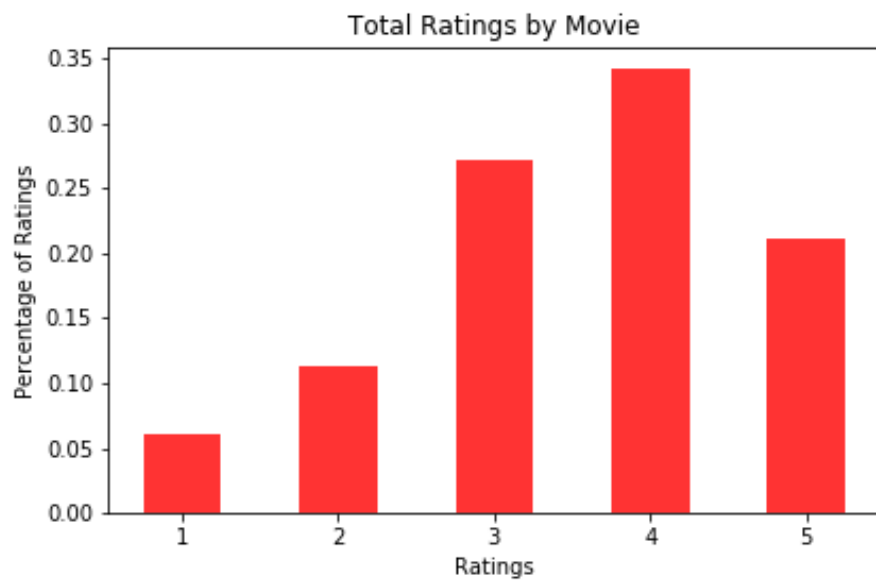


Figure 1: All ratings in the MovieLens Dataset

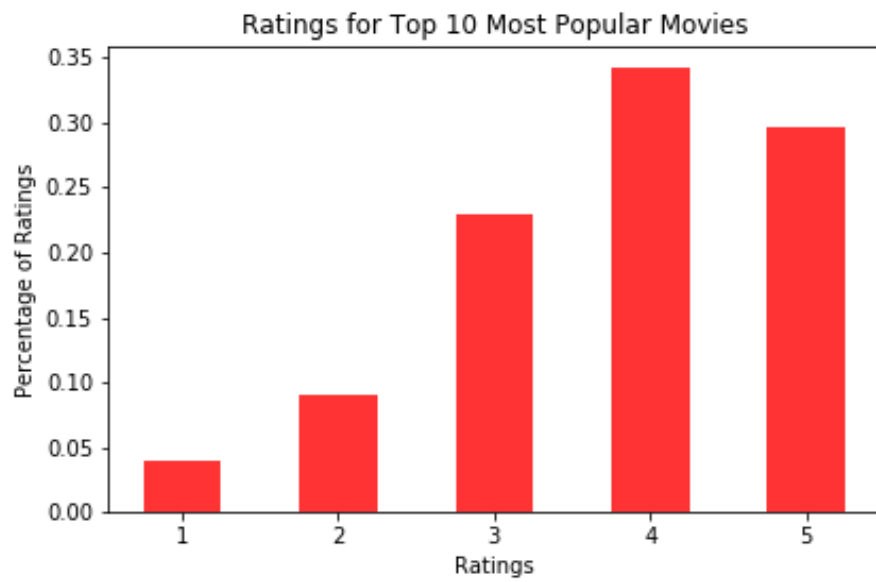


Figure 2: All ratings of the ten most popular movies

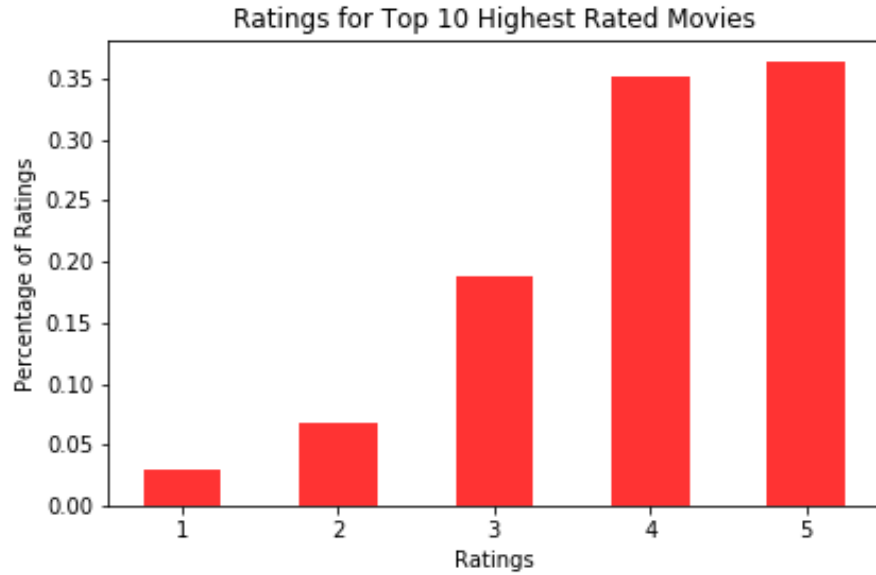


Figure 3: All ratings of the ten best movies

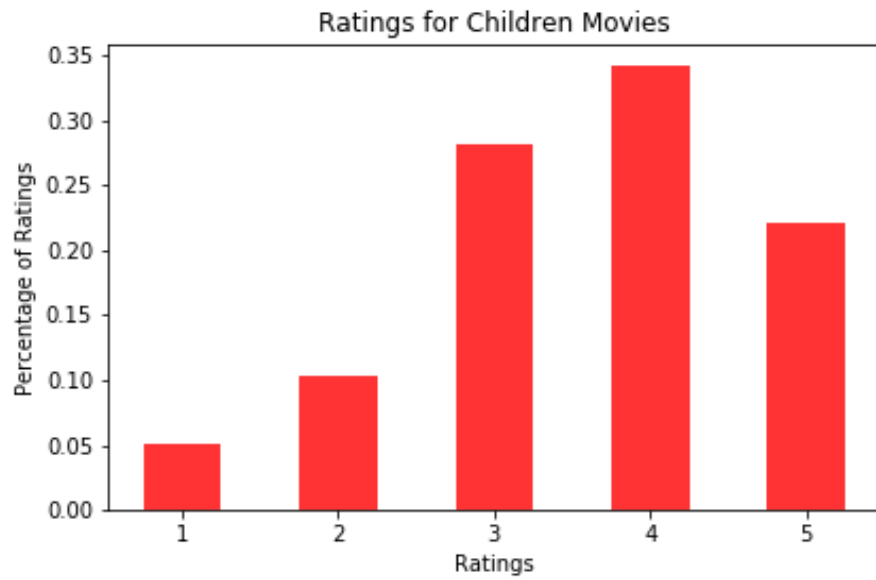


Figure 4: All ratings of the children genre movies

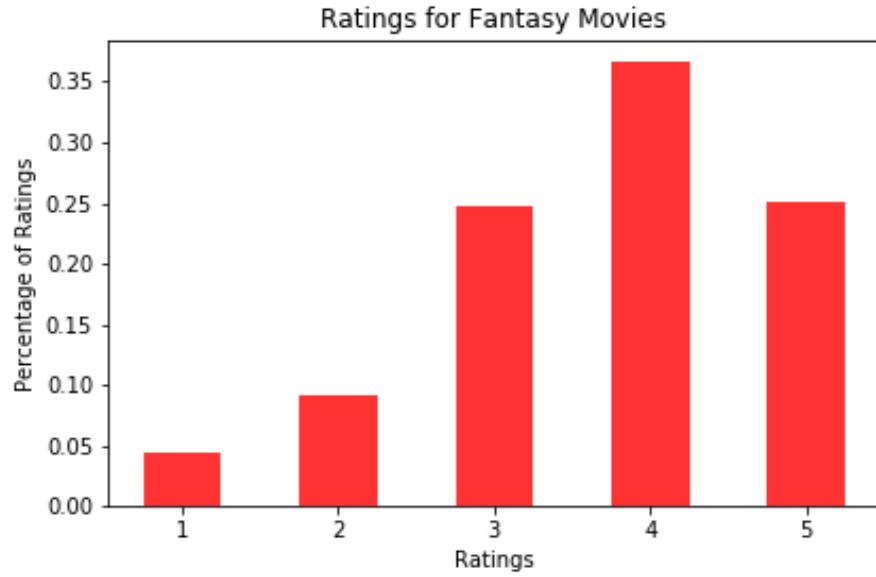


Figure 5: All ratings of the fantasy genre movies

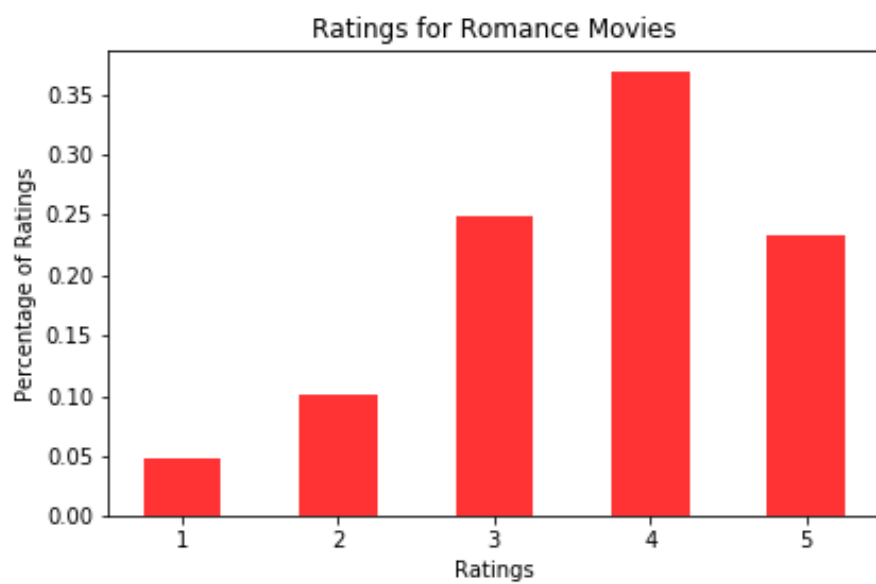


Figure 6: All ratings of the romance genre movies

## 2 Visualizations for Part 5

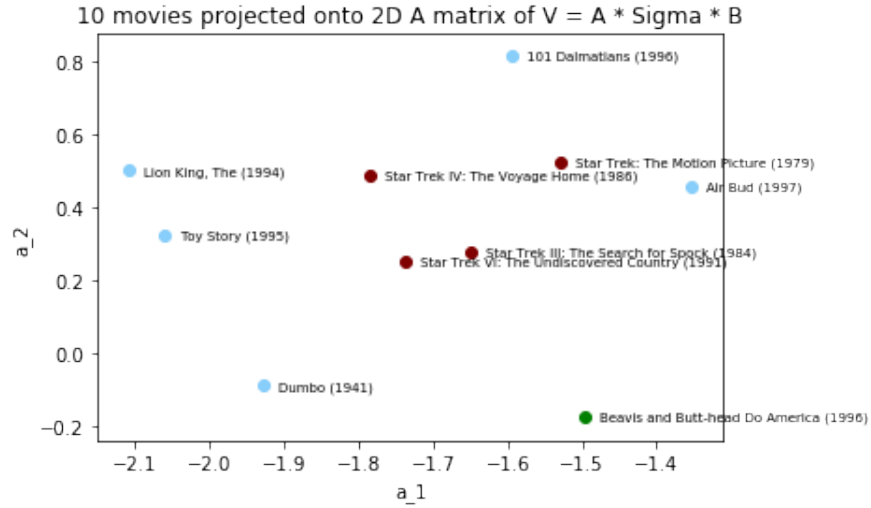


Figure 7: Various movies from the dataset plotted using 2D Projections. This was made using the standard matrix factorization technique from HW5.

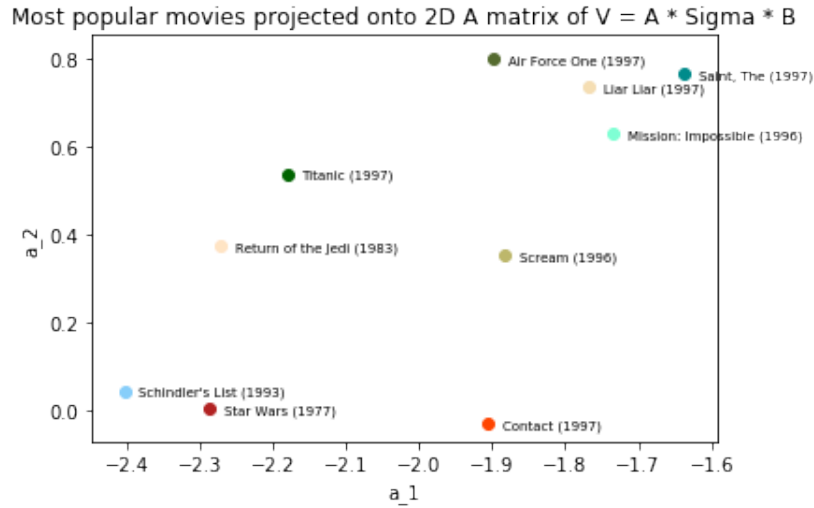


Figure 8: Most popular movies from the dataset plotted using 2D Projections. This was made using the standard matrix factorization technique from HW5.

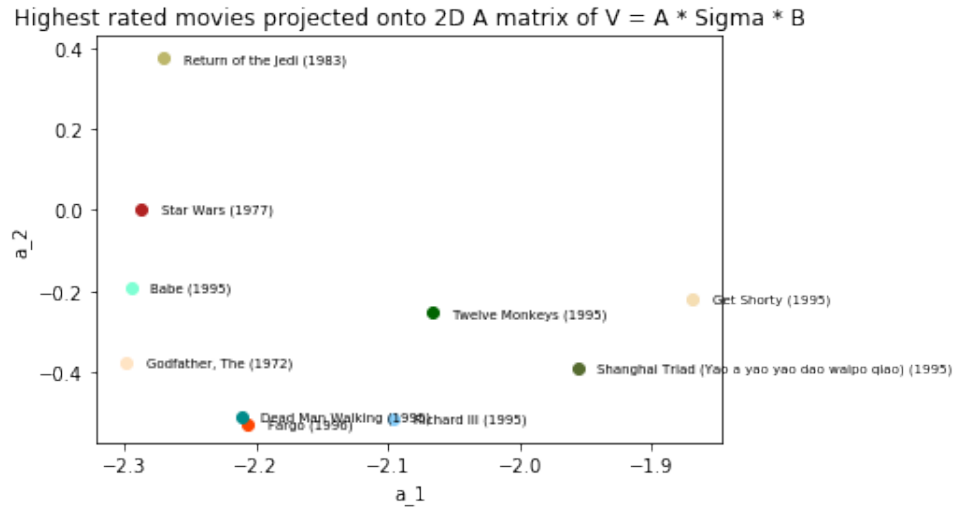


Figure 9: Highest Rated movies from the dataset plotted using 2D Projections. This was made using the standard matrix factorization technique from HW5.

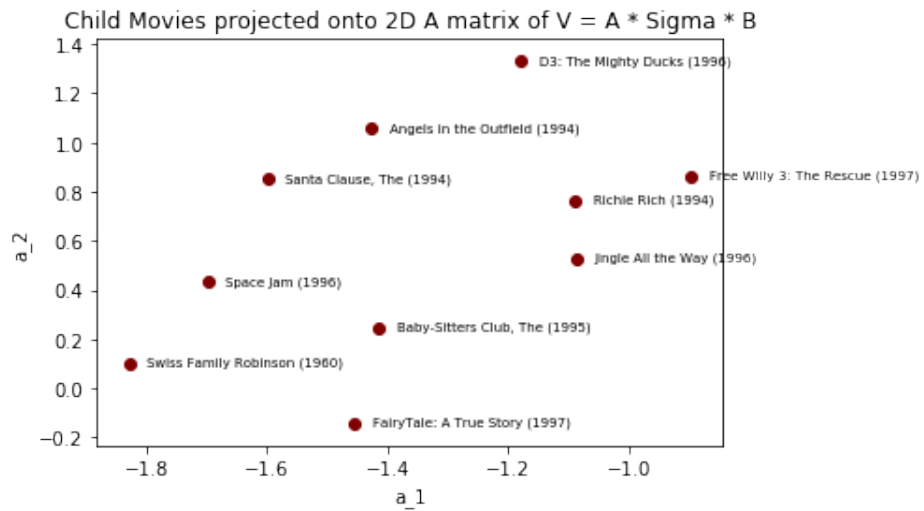


Figure 10: Various children movies from the dataset plotted using 2D Projections. This was made using the standard matrix factorization technique from HW5.

**Matrix Factorization with bias**

**Matrix Factorization with the Surprise package**

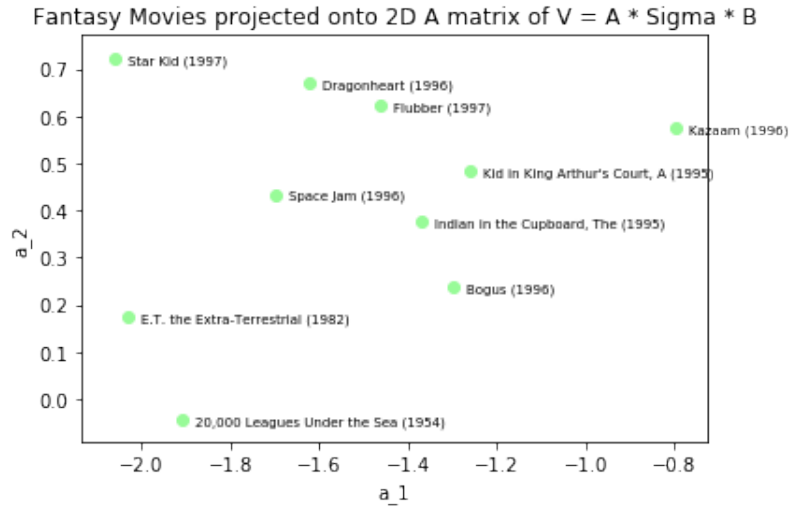


Figure 11: Various fantasy movies from the dataset plotted using 2D Projections. This was made using the standard matrix factorization technique from HW5.

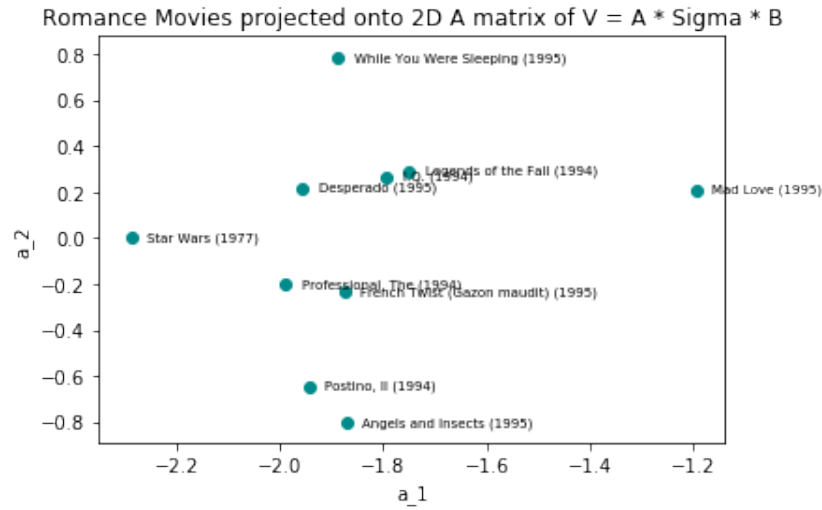


Figure 12: Various romance movies from the dataset plotted using 2D Projections. This was made using the standard matrix factorization technique from HW5.

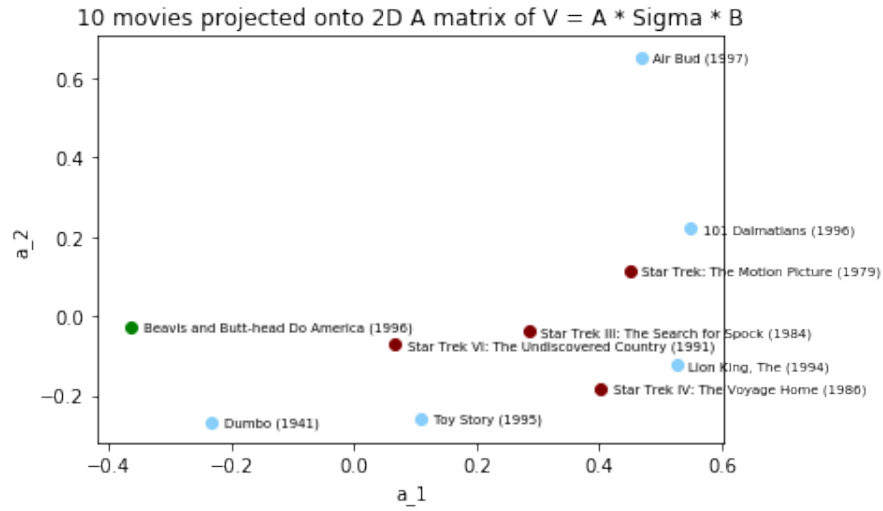


Figure 13: Various movies from the dataset plotted using 2D Projections. This was made using the standard matrix factorization technique from HW5.

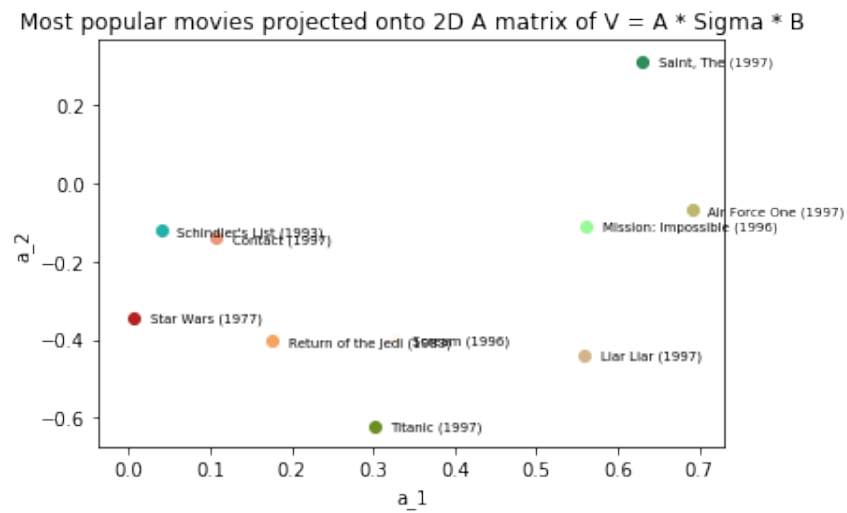


Figure 14: Most popular movies from the dataset plotted using 2D Projections. This was made using the standard matrix factorization technique from HW5.



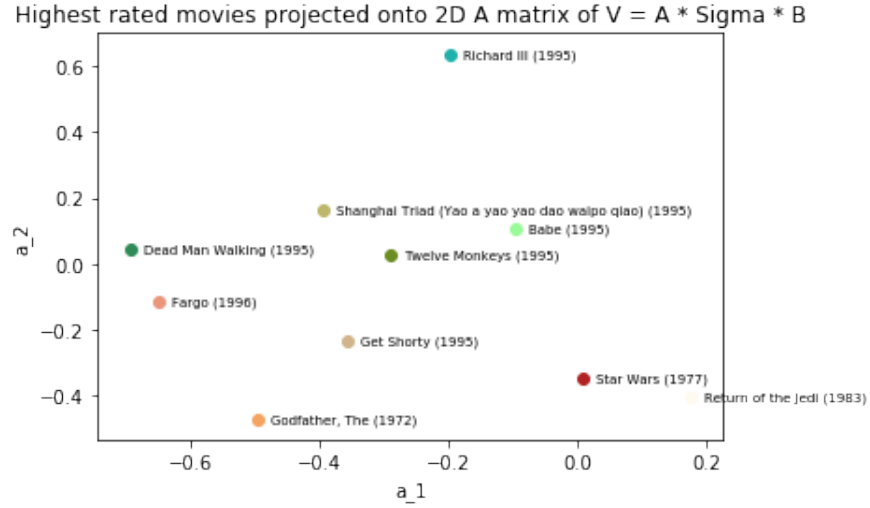


Figure 15: Highest Rated movies from the dataset plotted using 2D Projections. This was made using the standard matrix factorization technique from HW5.

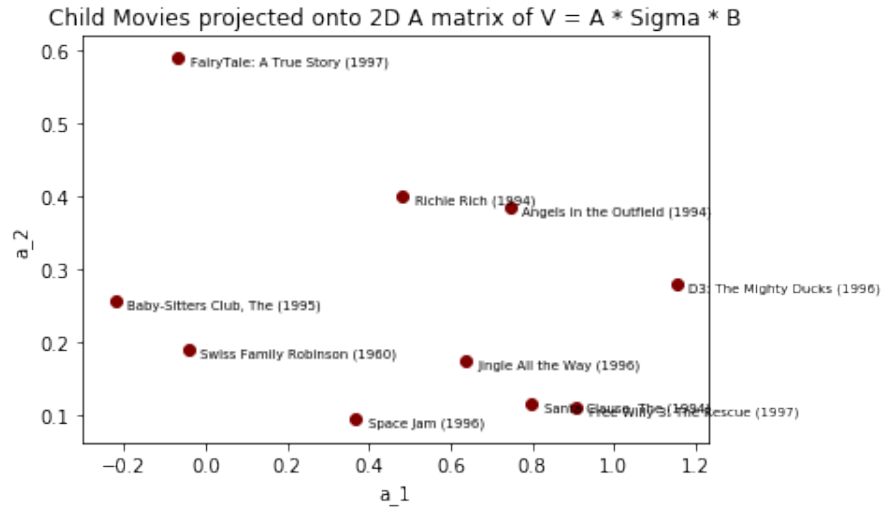


Figure 16: Various children movies from the dataset plotted using 2D Projections. This was made using the standard matrix factorization technique from HW5.

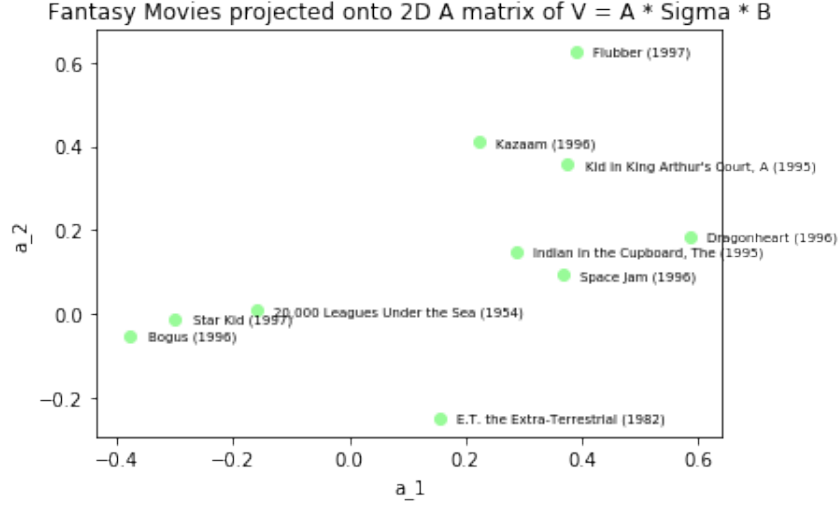


Figure 17: Various fantasy movies from the dataset plotted using 2D Projections. This was made using the standard matrix factorization technique from HW5.

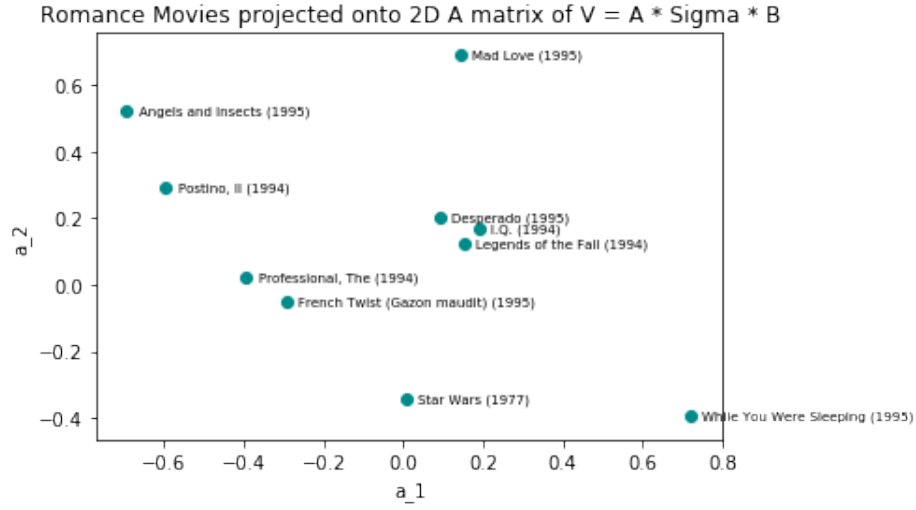


Figure 18: Various romance movies from the dataset plotted using 2D Projections. This was made using the standard matrix factorization technique from HW5.

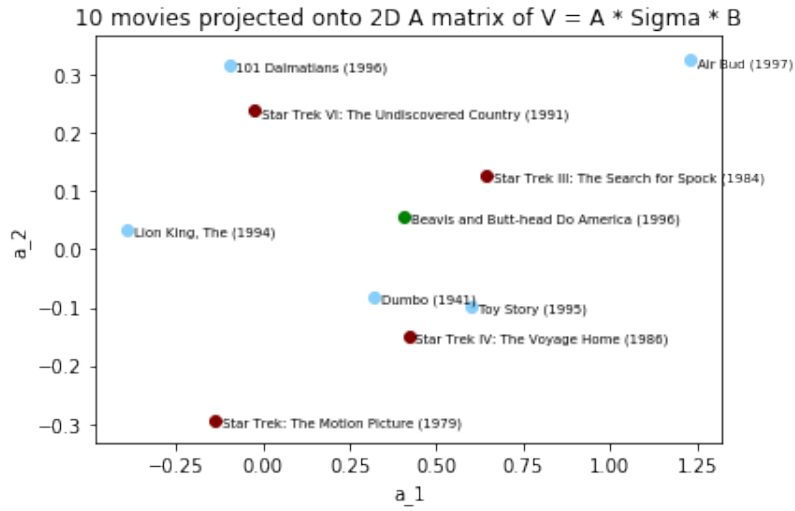


Figure 19: Various movies from the dataset plotted using 2D Projections. This was made using the Surprise Library.

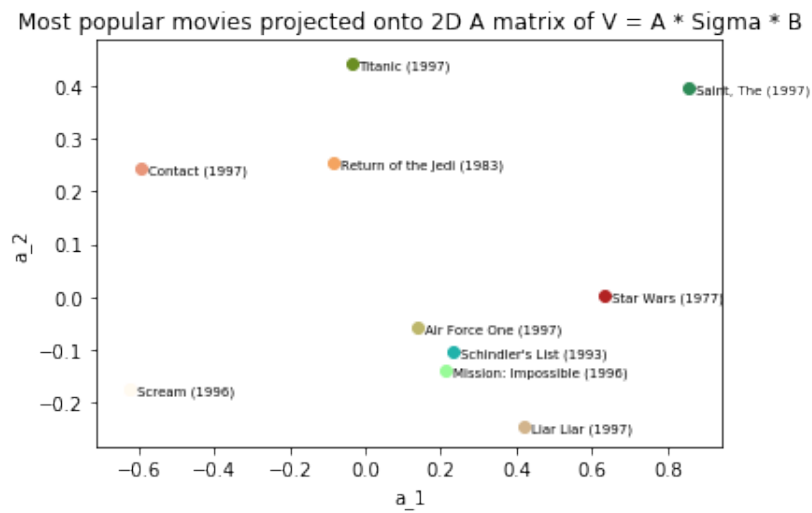


Figure 20: Most popular movies from the dataset plotted using 2D Projections. This was made using the Surprise Library.

Highest rated movies projected onto 2D A matrix of  $V = A * \text{Sigma} * B$

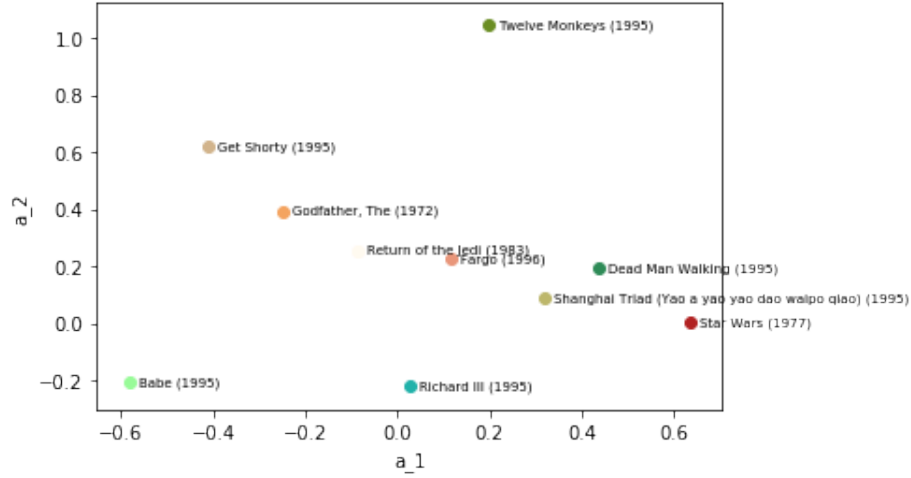


Figure 21: Highest Rated movies from the dataset plotted using 2D Projections. This was made using the Surprise Library.

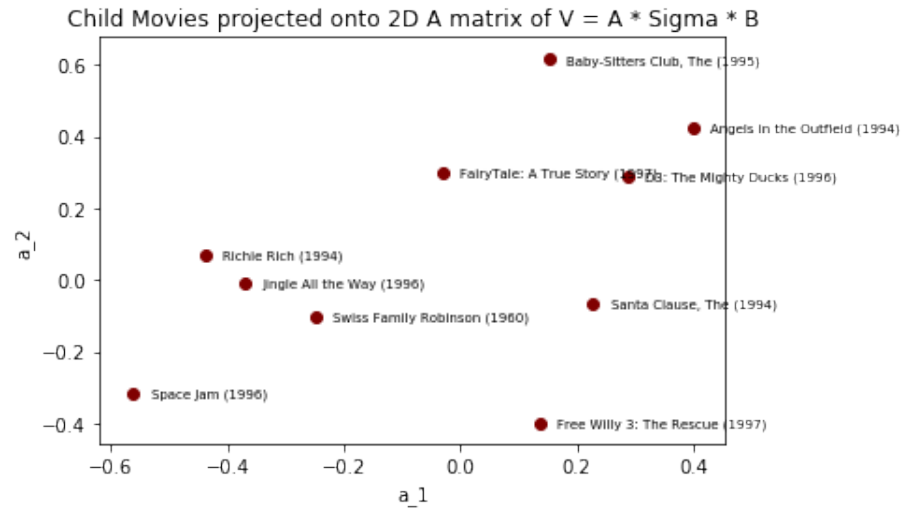


Figure 22: Various children's movies from the dataset plotted using 2D Projections. This was made using the standard matrix factorization technique from HW5.

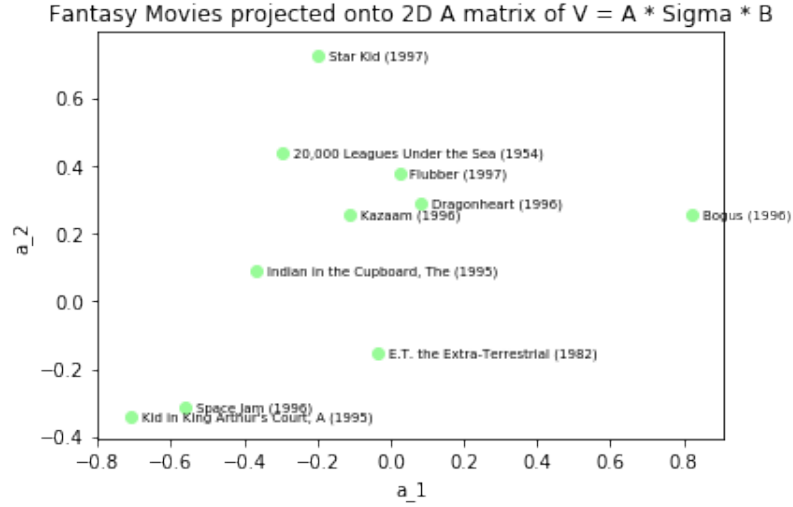


Figure 23: Various fantasy movies from the dataset plotted using 2D Projections. This was made using the standard matrix factorization technique from HW5.

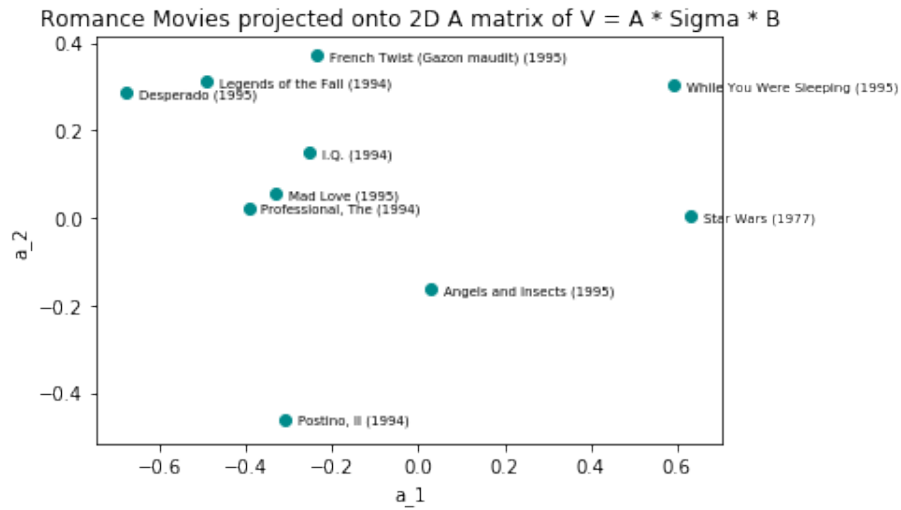


Figure 24: Various romance movies from the dataset plotted using 2D Projections. This was made using the standard matrix factorization technique from HW5.