

RECOMMENDATION SYSTEM

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Business Problem

- Provide top 5 movie recommendations to a user based on their ratings of other movies.

Data and Methods

Data

- Ratings.csv
- Movies.csv

Method

- SVD (Singular Value Decomposition)

Singular Value Decomposition

Companies that use it: Netflix and Amazon

- Focus on important factors, faster computation
- Effective for large datasets
- Uncovers hidden relationship between users and items

Results: Accuracy

Predicting on rating scale: 0 - 5

RMSE: 0.8761

- Indicate relatively accurate predictions

MAE: 0.6677

- System is off by 0.67 points, relatively good accuracy

FCP: 0.6259

- 62.59% of predictions made are correct

Results: User

Rated by User

- V for Vendetta 4.5
- Wreck-it Ralph 4.0
- Shrek Forever After 4.0
- Mean Girls 3.5
- The Phantom of the Opera 3.5

Recommended for User

- LoTR: Return of the King 4.24
- Star Wars: Episode IV 4.22
- M 4.22
- Fight Club 4.16
- LoTR: Fellowship of the Ring 4.14

Results: Jeffery

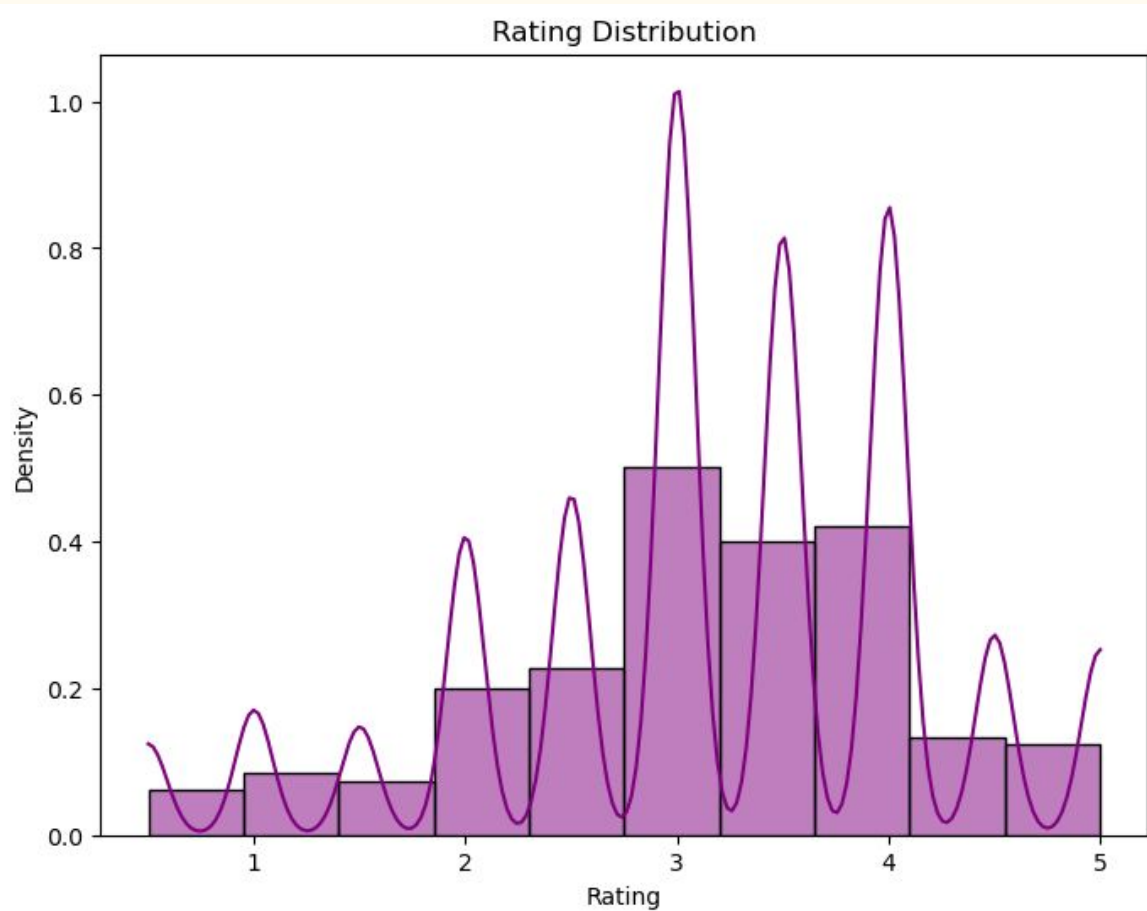
Highly Rated

- Inception
- The Dark Knight

Highly Recommended

- | | |
|------------------------|------|
| ● 12 Angry Men | 4.37 |
| ● Pulp Fiction | 4.30 |
| ● Seven Samurai | 4.30 |
| ● Shawshank Redemption | 4.29 |
| ● Casablanca | 4.25 |

Results



Conclusion

- Introduce more features to provide a better recommendation like user interaction
- Introduce bias terms for users and items can help model preferences more effectively

Thank You