

Analysis of Movie Ratings by Genres

Venugopal Gonela

Dataset

- IMDB Movie Dataset
- <https://grouplens.org/datasets/movielens/>

Motivation

I would like to explore distributions of ratings within genres and analyze what type of genres are highly rated or low rated compared to others. As I am very much interested in science fictional movies, I would like to compare science fictional movies with other genres. This analysis could be helpful to the various people who invest in movies making or also to those who want to create new movies.

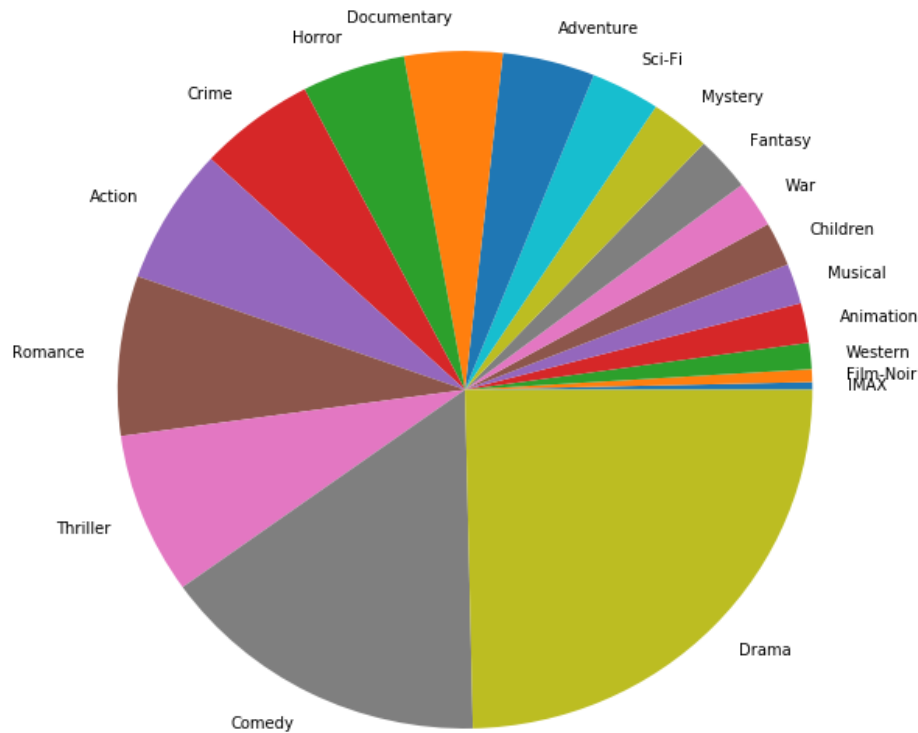
Research Questions

What type of genres are highly rated compared to others in terms of quantity and quality?

Do science fiction movies tend to be rated more highly than other movie genres?

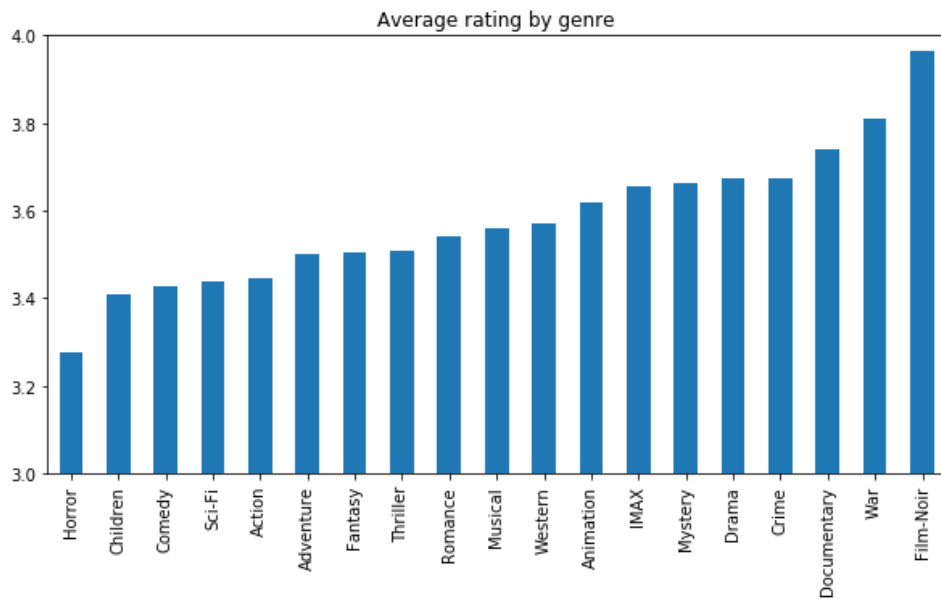
Genres distribution by movie counts

- Number of movies rated by genres.
- IMAX genre has least movies, which make 0.3%
- Drama genre has most movies, which make 24.6%
- Sci-Fi genre, which is of interest, is in 10th in movies count. The percentage of Sci-Fi movies is 3.2%.
- As seen in chart, the genre distribution by number of movies varies drastically.



Genres distribution by average ratings

- Average rating by genre.
- On average, Film-Noir genre has best rating.
- On average, Horror genre movies have least rating.
- On average, Sci-Fi genre is in 16th position.
- Though, average ratings will be affected by the number of movies in the genres.

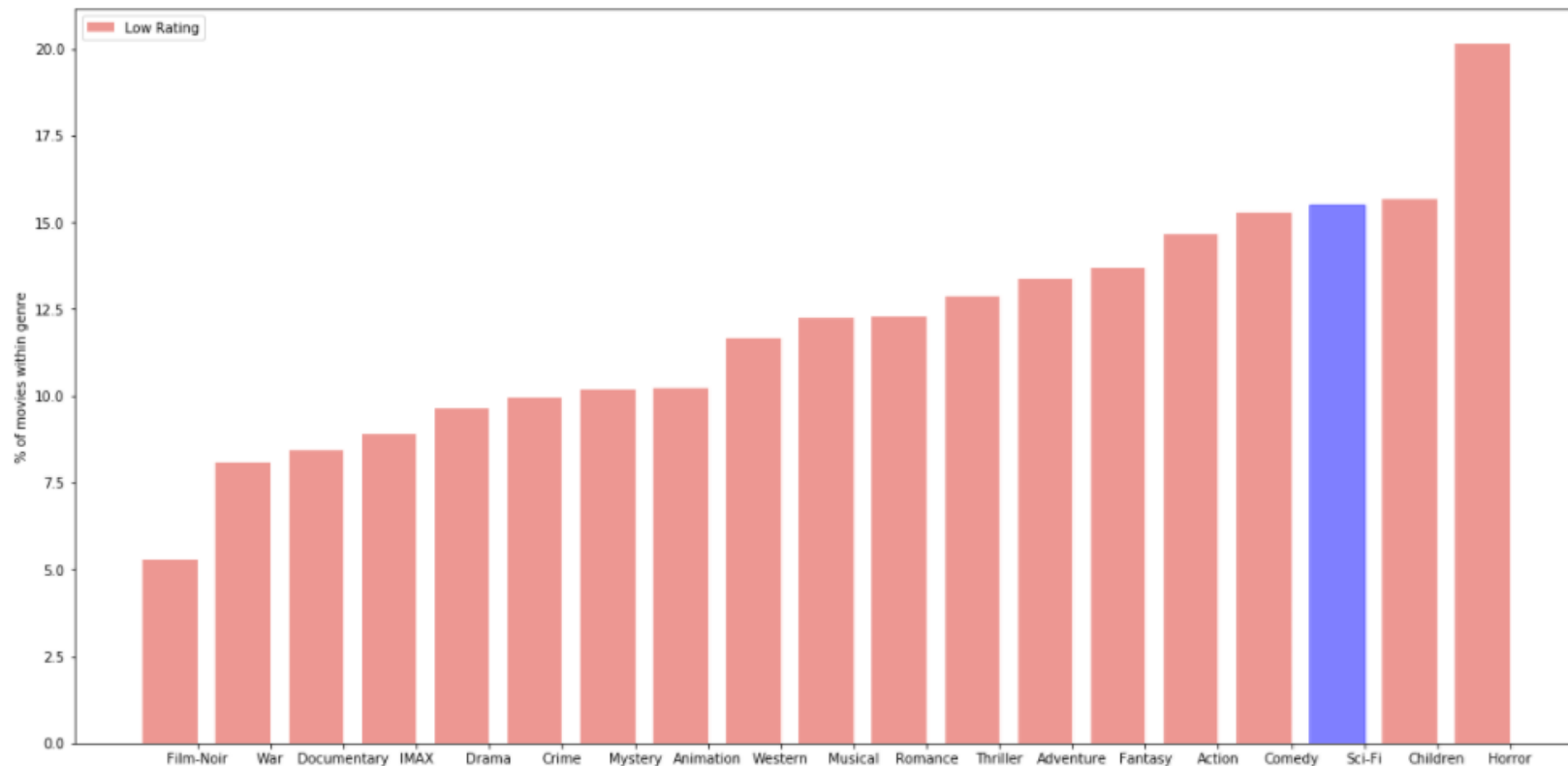


Categorize ratings

As the ratings are ranged from 0.5 to 5.0, I have divided the ratings as low, mid and high ratings for making analysis easier.

Ratings Range	Categeory
< 2.5	Low Rating
>=2.5 and < 4.0	Mid Rating
>=4.0	High Rating

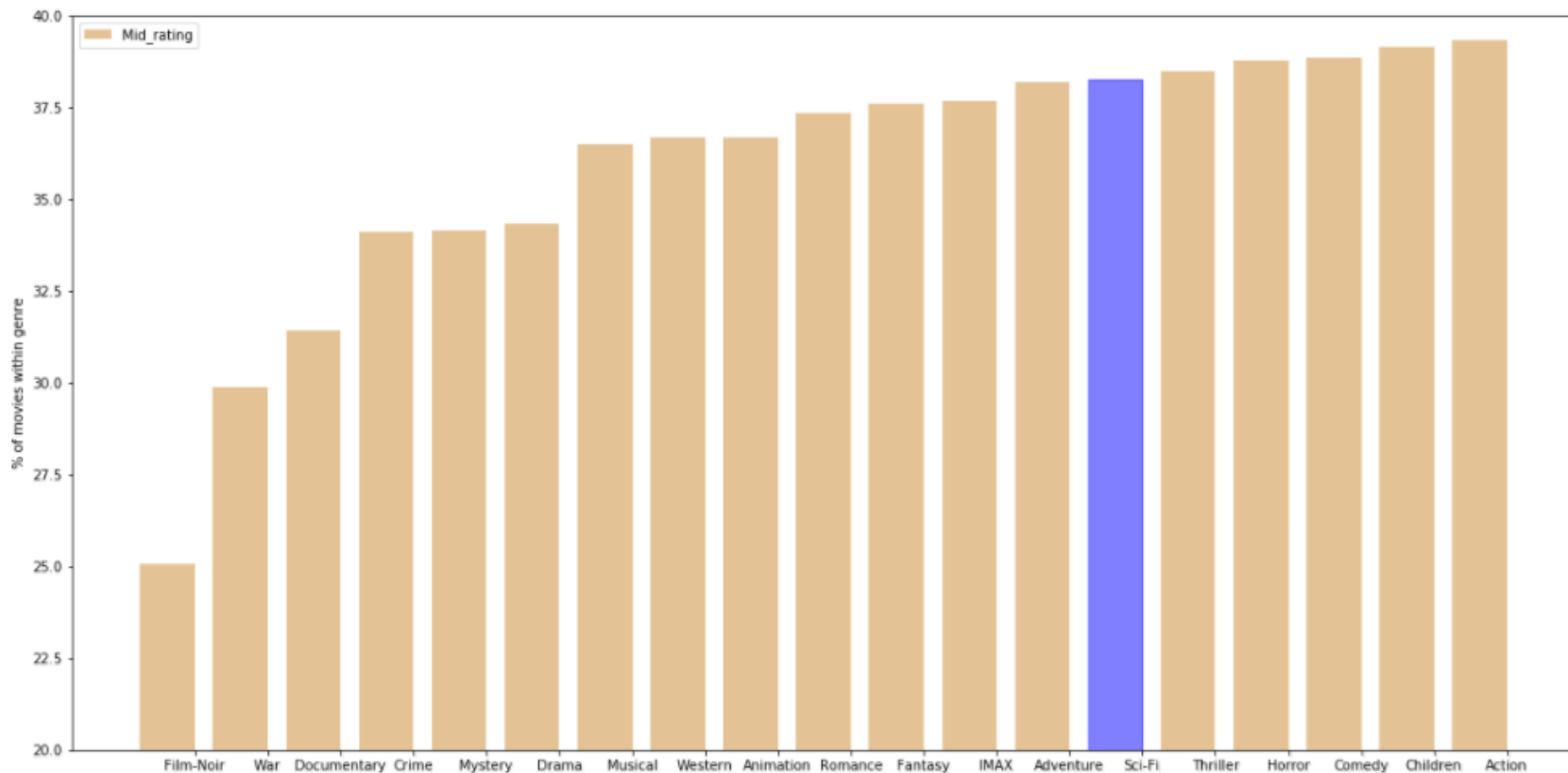
Comparison of low rating movies across genres



Comparison of low rating movies across genres

- Plot shows percentage of low rating movies in each genre.
- It compares low rating movies across genres in a sorted manner.
- The 15.5% of Sci-Fi movies are in low-rating, but compared to other genres it has fairly high percentage of low rating movies.

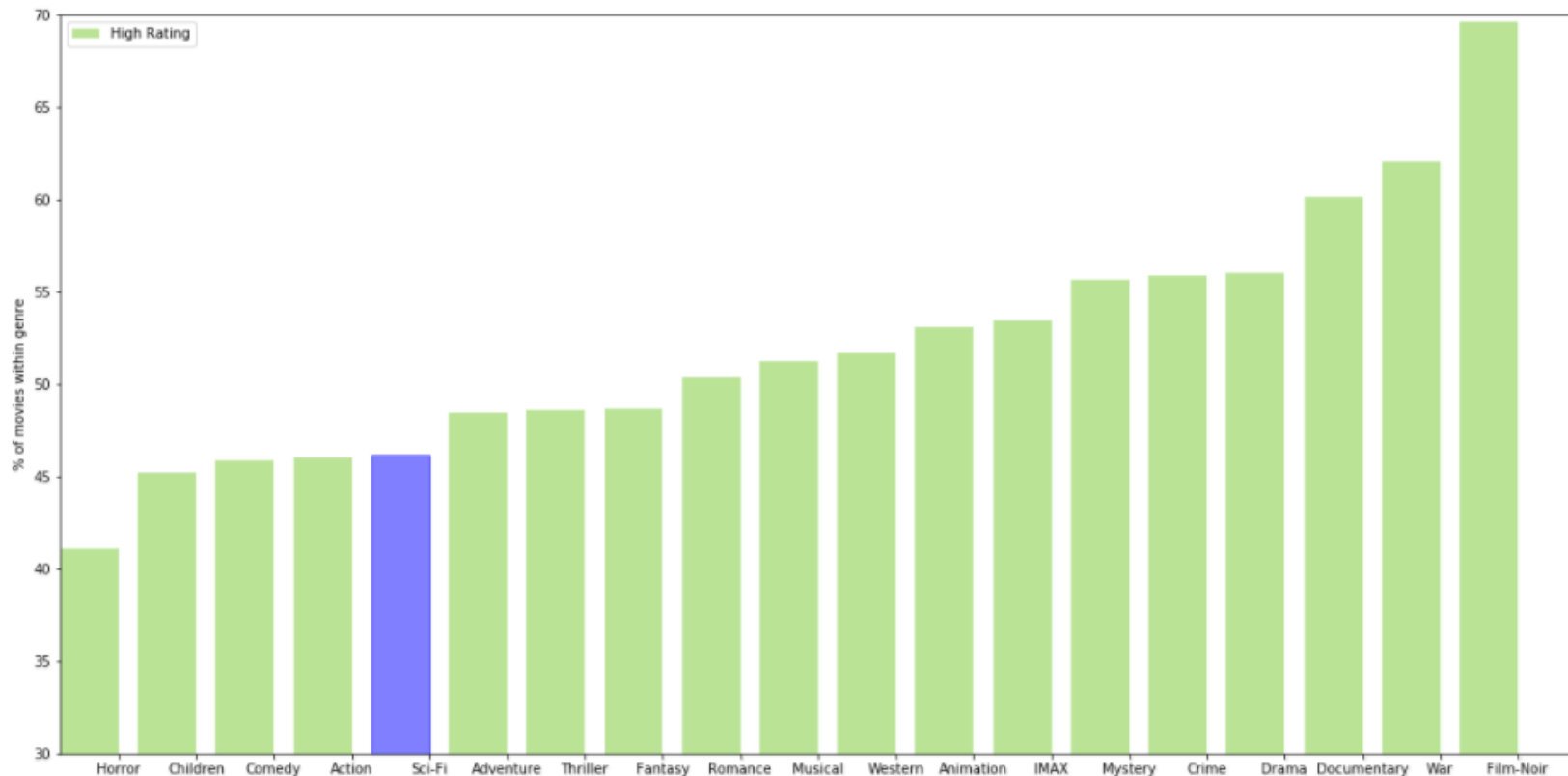
Comparison of mid rating movies across genres



Comparison of mid rating movies across genres

- Plot shows percentage of mid rating movies in each genre.
- It compares mid rating movies across genres in a sorted manner.
- The 38.2% of Sci-Fi movies are in mid-rating, but compared to other genres it has fairly high percentage of mid rating movies.

Comparison of high rating movies across genres



Comparison of high rating movies across genres

- Plot shows percentage of high rating movies in each genre.
- It compares high rating movies across genres in a sorted manner.
- The 46.2% of Sci-Fi movies are in high-rating, but compared to other genres it has fairly less percentage of high rating movies.

Conclusion

- Comparison of the ratings by genres showed what type of genres are highly rated across genres and within genres.
- Sci-Fi movies have more highly rated movies than compared to low or mid rating movies.
- Sci-Fi movies have low highly rated movies when compared with most of other genres.
- In the previous slides, it is clear how blue bar is compared with other bars in various plots.

Acknowledgements

- I have received valuable feedback from my colleague Vivek Reddy Doudagiri on the bar plots to highlight Sci-Fi bar for better comparison.
- I also look forward for any valuable feedback by which I can make corrections and learn to do in better way.

References

I have done this work by myself. I have referred following documentation for implementation of the code.

- <https://matplotlib.org>

Comments

I have not uploaded the pdf of notebook I have worked on, as I am facing few issues in downloading the notebook as pdf.