

# Reducing Customer Churn Through Reviewer Collaboration



Presented by: Prophetic Insights LLC

# Meet the Team

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Juana Tavera  
GitHub: [tvrjuana](#)



Mackoy Staloch  
GitHub: [MackoYS](#)



Brendan Bruno  
GitHub: [btbruno20](#)

# Agenda

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- Business Objective
- Main Findings
- Data Analysis
- Recommendations
- Future Steps



# Business Objective

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# Main Findings

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1. Best Recommendation System:  
Model-based Collaborative Filtering
2. “Cold Start” solution
3. Focus I.P. acquisitions on top 5  
genres



# Data Analysis

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- Data Overview
- Word Cloud
- Genre Review Bias
- People Rate Movies Favorably
- Super Reviewers



# Data Overview

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Data

Users

Review  
Count

Limitations

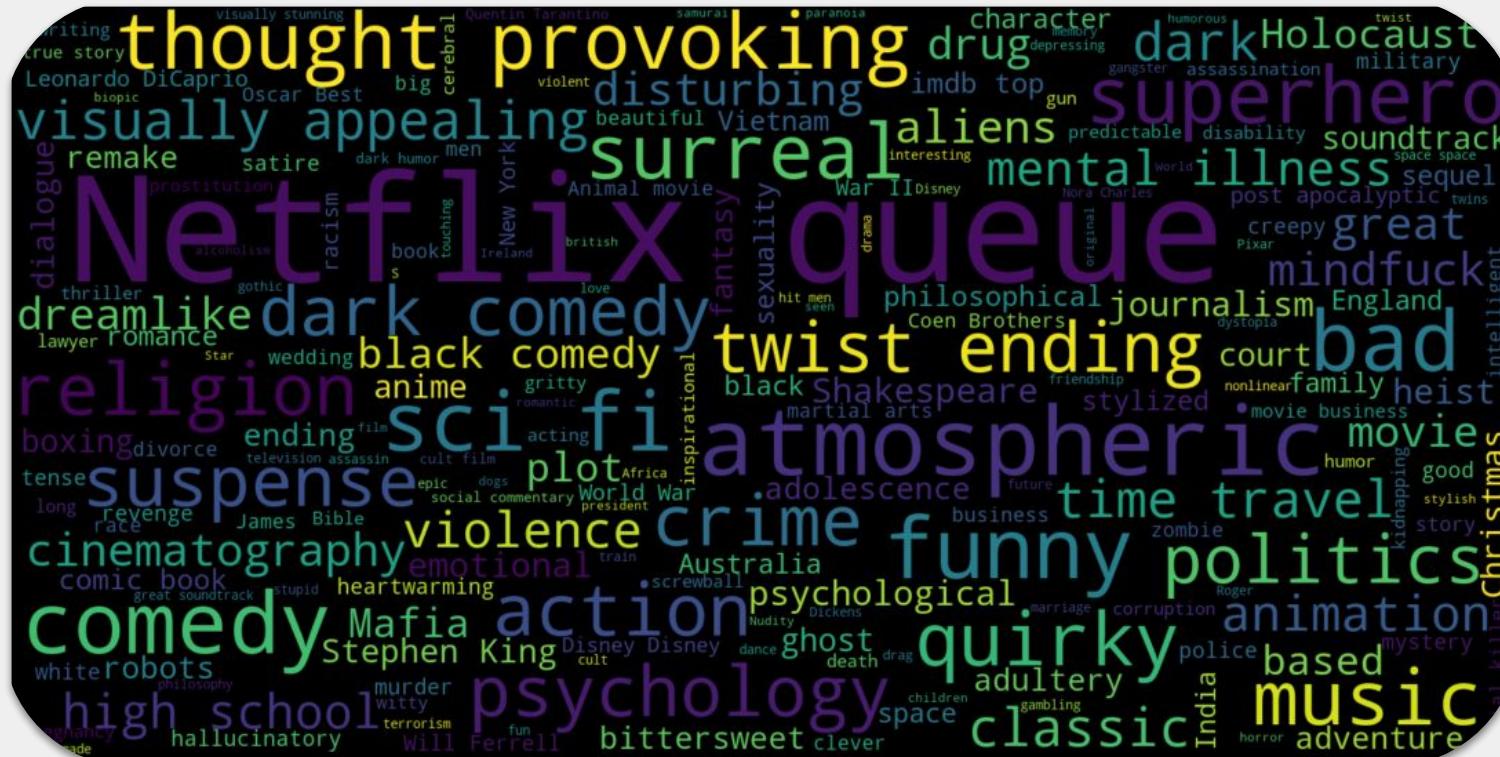
movielens

610 ~100K



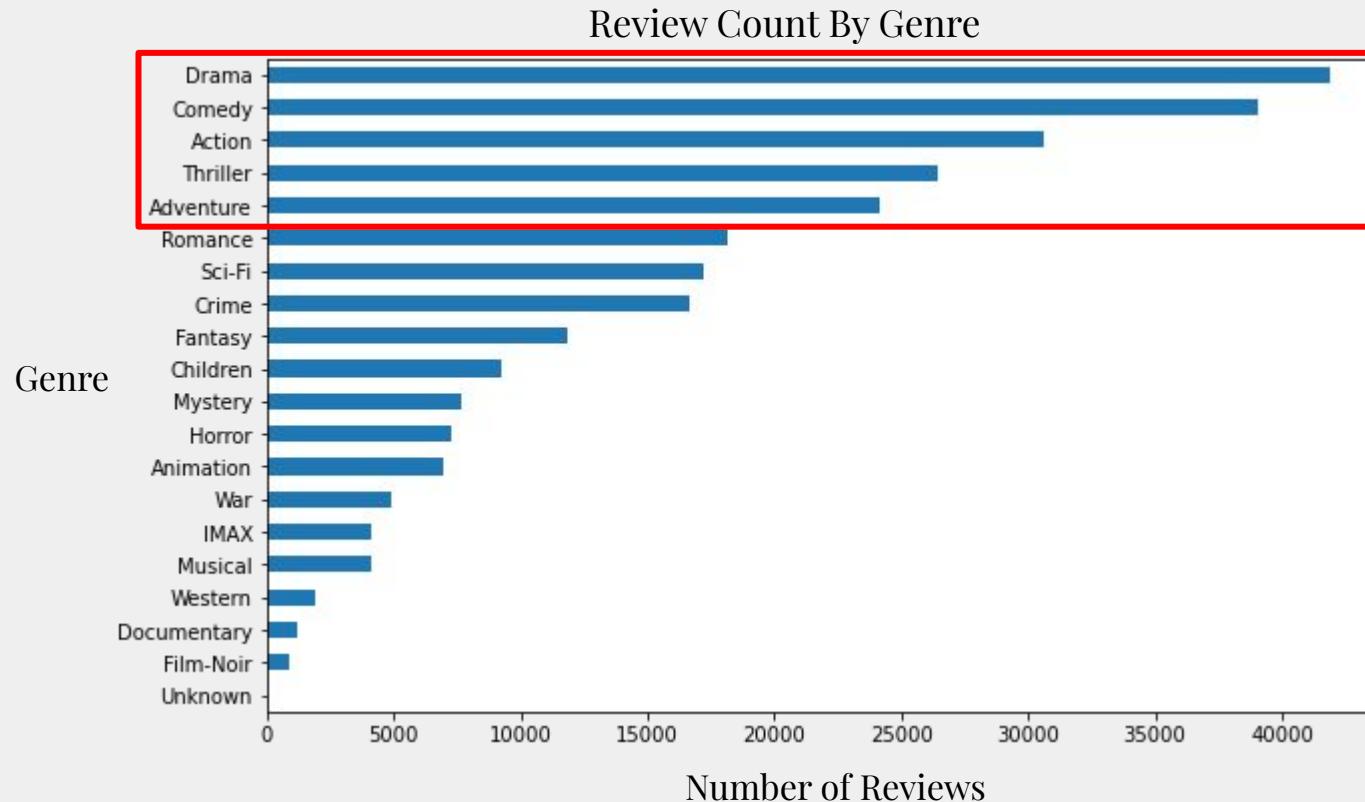
OCBS

# Data Analysis: Focus I.P. Search on Superhero and Atmospheric movies



# Data Analysis: Genre Review Bias in Our Rec System

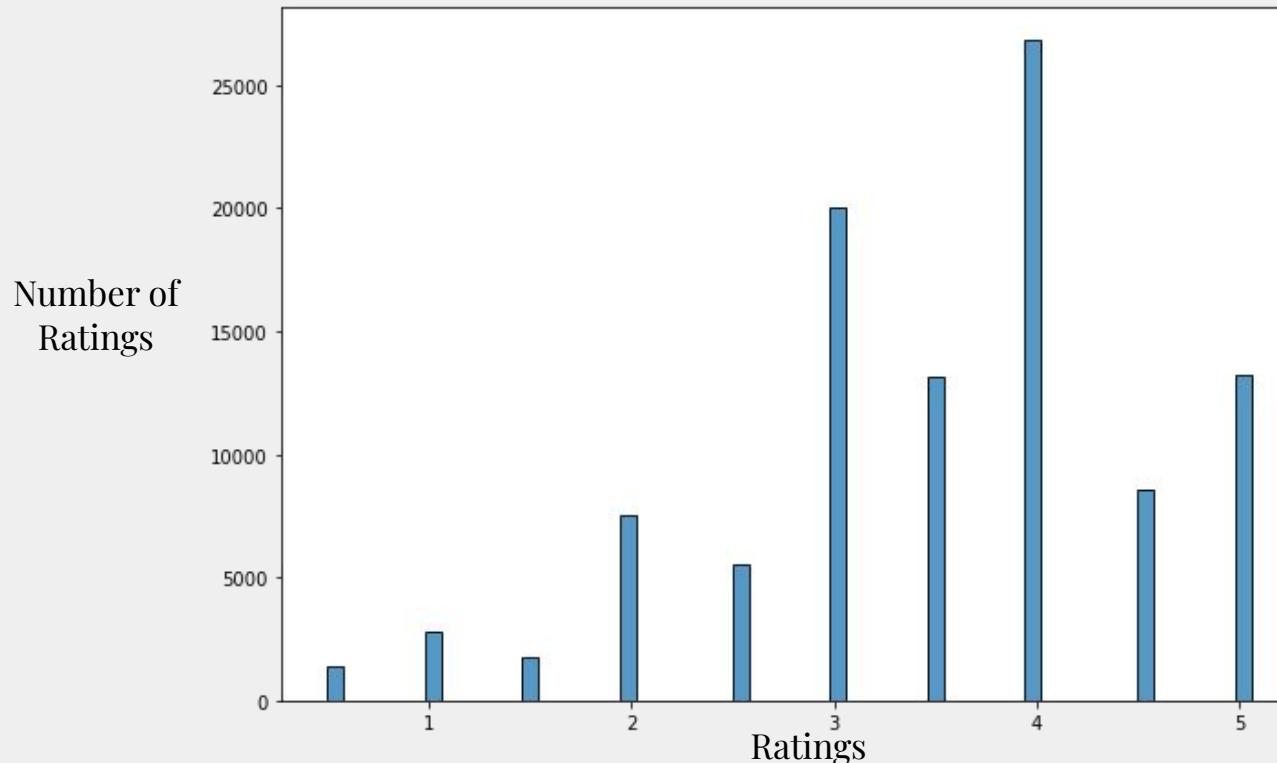
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# Data Analysis: Positivity Bias in Our Rec System

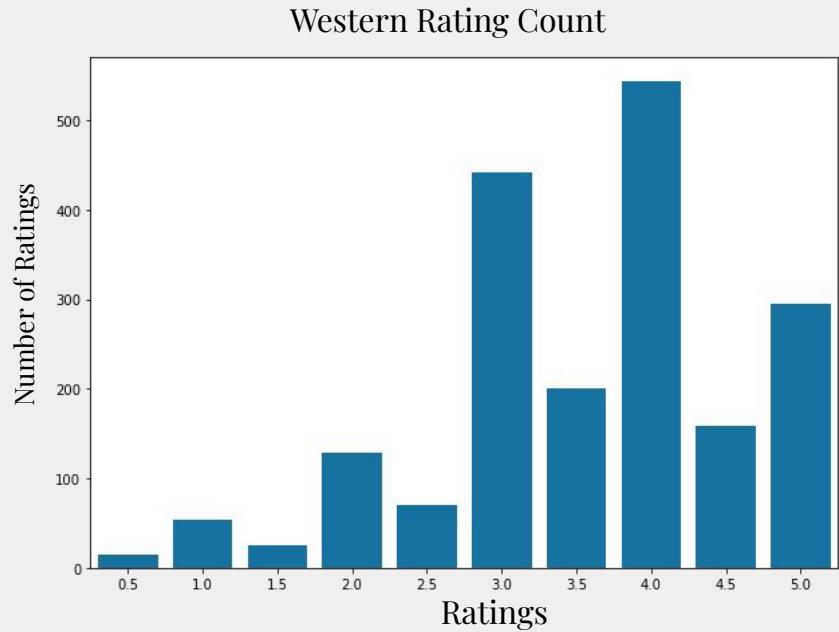
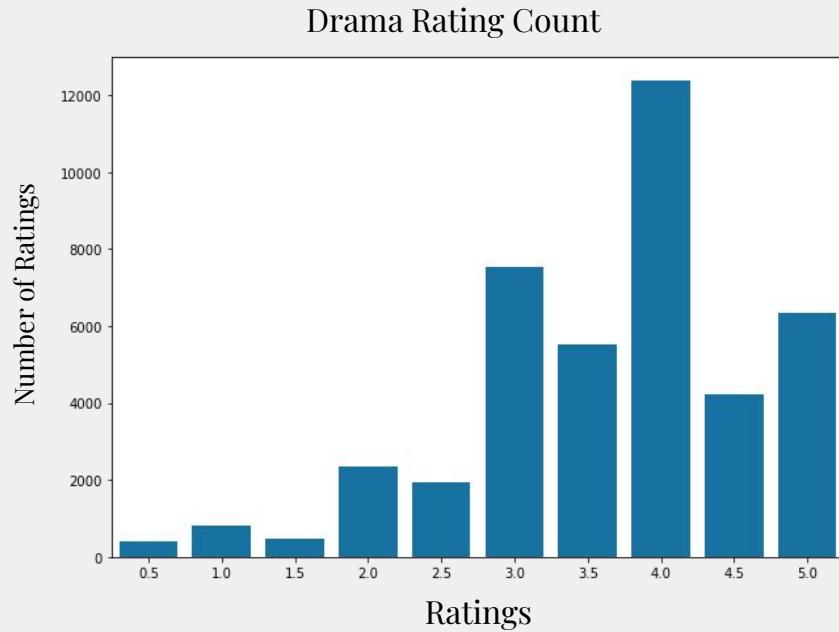
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Movie Ratings Distribution



# Data Analysis: Positivity Bias Across Genres

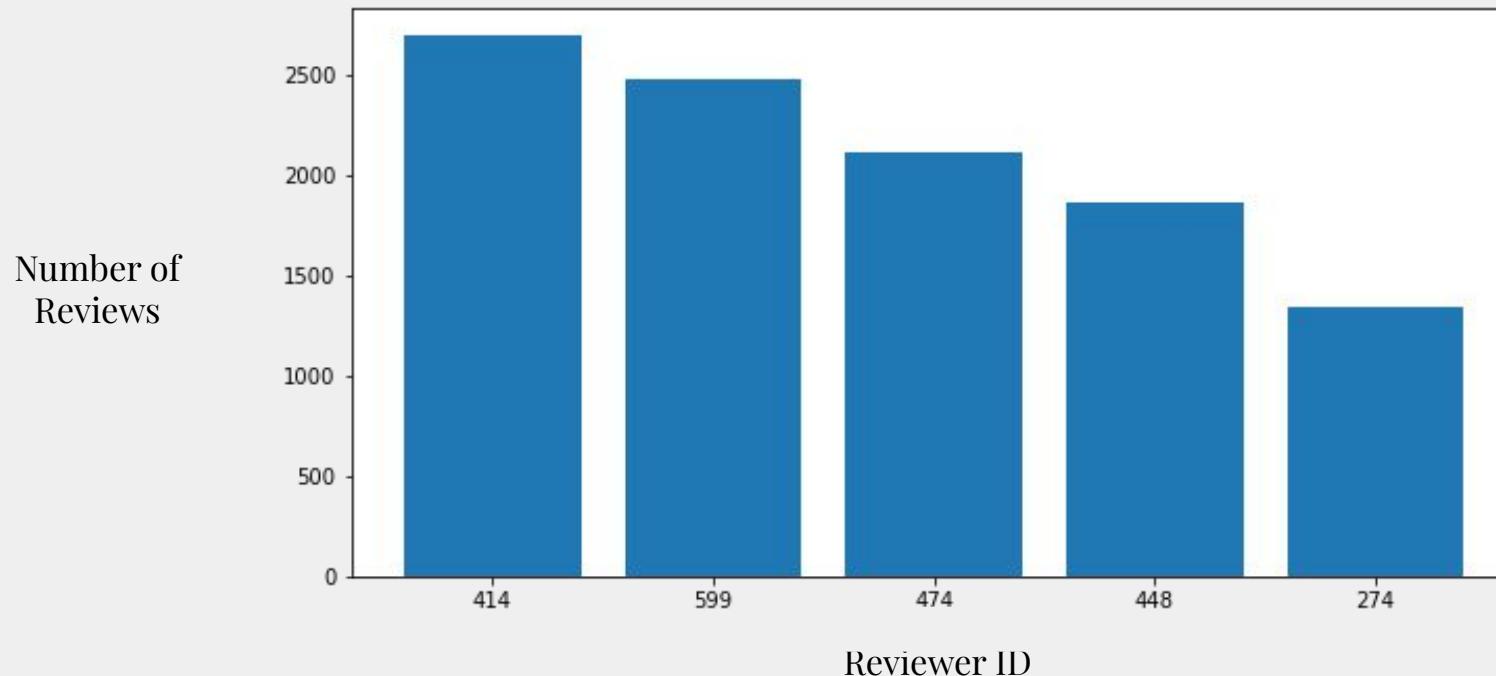
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# Data Analysis: Removed Super Reviewer Bias

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Top 5 Reviewers



# Aileen's Journey

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- Model Overview
- Signing Up!
- Rating Movies
- Recommendation List



# Aileen's Journey: Recommendation System Overview

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UserID, MovieID,  
and Rating

Model and Metrics:  
RMSE

Prediction Rating:  
4.5

Actual Rating:  
4

Rating Difference:  
~.86



# Meet Aileen

New Subscriber!



# Aileen's Journey: Rating Movies - Comedy

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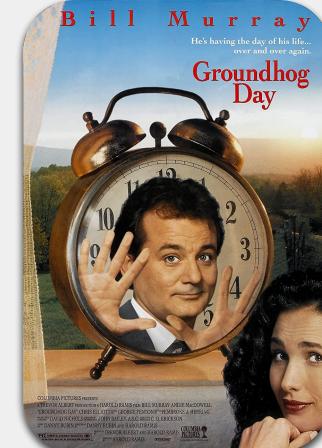
How do you rate this movie on a scale of 0-5, press x if you have not seen it?



5/5



5/5



5/5



3/5

# Aileen's Journey: Recommendation List

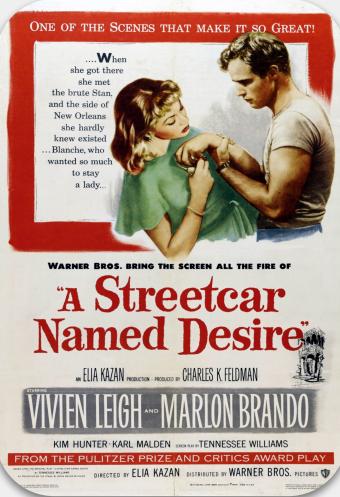
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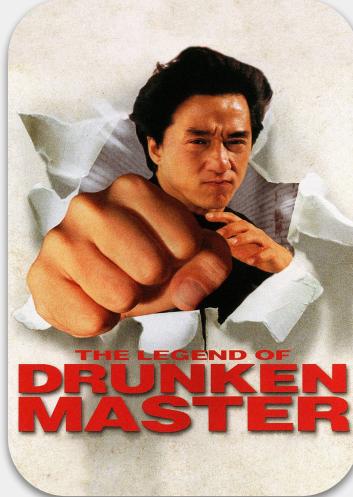
Guess Who's Coming  
to Dinner (1967)  
*Drama*



Grave of the Fireflies  
(1988)  
*Animated/Drama/War*



A Streetcar Named  
Desire (1951)  
*Drama*



The Legend of  
Drunken Master  
(1994)  
*Action/Comedy*



Sunset Boulevard  
(1950)  
*Drama/Film-Noir/  
Romance*

# Aileen's Journey: Daydreaming



# Final Thoughts

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- Recommendations
- Future Steps
- Questions



# Recommendations

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1. SVD++ model type provides the best recommendations
2. Have new users enter in ratings of 10+ movies
3. Focus I.P. acquisitions on top 5 Genres for customer interaction



# Future Steps

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User Review Rewards System



Examination of Future Content  
Acquisitions or Creations



Minimizing Any Overrepresentations



Rec System Exclusively for  
Paramount IP

# Prophetic Insights LLC

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Juana Tavera  
GitHub: tvrjuana



Mackoy Staloch  
GitHub: MackoyS



Brendan Bruno  
GitHub: btbruno20

# Questions

# Appendix

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- [https://upload.wikimedia.org/wikipedia/commons/e/ea/Paramount%2B\\_logo.png](https://upload.wikimedia.org/wikipedia/commons/e/ea/Paramount%2B_logo.png)
- Photo by [Renato Ramos Puma](#) on [Unsplash](#)
- Photo by Dio Hasbi Saniskoro: <https://www.pexels.com/photo/people-doing-group-hand-cheer-3280130/>
- Photo by [Dollar Gill](#) on [Unsplash](#)  
<https://www.usatranslate.com/what-are-the-most-common-female-names-in-el-salvador/>
- Photo by [Sujal Patel](#) on [Unsplash](#)
- Photo by [Markus Winkler](#) on [Unsplash](#)  
[https://www.mediavillage.com/media/channels/cbs\\_eye\\_hi\\_res\\_ATdcszR.jpg](https://www.mediavillage.com/media/channels/cbs_eye_hi_res_ATdcszR.jpg)
- <https://prod-ripclip-delivery.disney-plus.net/v1/variant/disney/E9CC46E92437CE6DC77C0107D89C41DEF4D03D6E694D6481653D1B28A63E1DA4/scale?width=1200&aspectRatio=1.78&format=jpeg>
- [https://m.media-amazon.com/images/M/MV5BZDcwYjEyNWltMGI1Mi00Mjl1LWIyMDEtMTQ4YjhkNjM4NDU3XkEyXkFqcGdeQXVyNDUyOTg3Njg@.\\_V1\\_FMjpg\\_UX1000\\_.jpg](https://m.media-amazon.com/images/M/MV5BZDcwYjEyNWltMGI1Mi00Mjl1LWIyMDEtMTQ4YjhkNjM4NDU3XkEyXkFqcGdeQXVyNDUyOTg3Njg@._V1_FMjpg_UX1000_.jpg)
- [https://m.media-amazon.com/images/M/MV5BZWlxNzM5YzQtY2FmMS00Yjc3LWI1ZjUtNGVjMjMzZTIxZTIxXkEyXkFqcGdeQXVyNjU0OTQ0OTY@.\\_V1\\_FMjpg\\_UX1000\\_.jpg](https://m.media-amazon.com/images/M/MV5BZWlxNzM5YzQtY2FmMS00Yjc3LWI1ZjUtNGVjMjMzZTIxZTIxXkEyXkFqcGdeQXVyNjU0OTQ0OTY@._V1_FMjpg_UX1000_.jpg)
- [https://m.media-amazon.com/images/M/MV5BYjBhNjc1NiktZTg4OS00YmUyLWI4YjAtNGIxZGM4ZTdkNmZkXkEyXkFqcGdeQXVyMTQxNzMzNDI@.\\_V1\\_.jpg](https://m.media-amazon.com/images/M/MV5BYjBhNjc1NiktZTg4OS00YmUyLWI4YjAtNGIxZGM4ZTdkNmZkXkEyXkFqcGdeQXVyMTQxNzMzNDI@._V1_.jpg)
- [https://m.media-amazon.com/images/M/MV5BMTM3NTY3MDI2NF5BMI5BanBnXkFtZTcwNjUwNTU4MQ@@.\\_V1\\_.jpg](https://m.media-amazon.com/images/M/MV5BMTM3NTY3MDI2NF5BMI5BanBnXkFtZTcwNjUwNTU4MQ@@._V1_.jpg)
- Photo by [Dollar Gill](#) on [Unsplash](#)

# Data Analysis: Movies from the 1990s are Overrepresented

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Top 5 Movie Titles by Review Count

