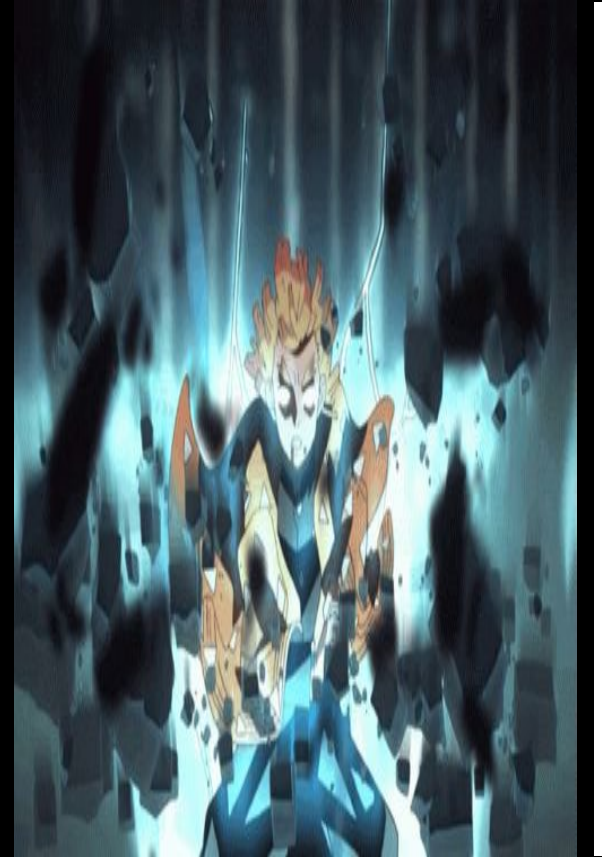


MyAnimeList Recommendation

GEORGE RAMIL AARON



Overview

My Anime List is a website where users can track anime they have watched and submit ratings and reviews

Millions of monthly users rate anime and manga



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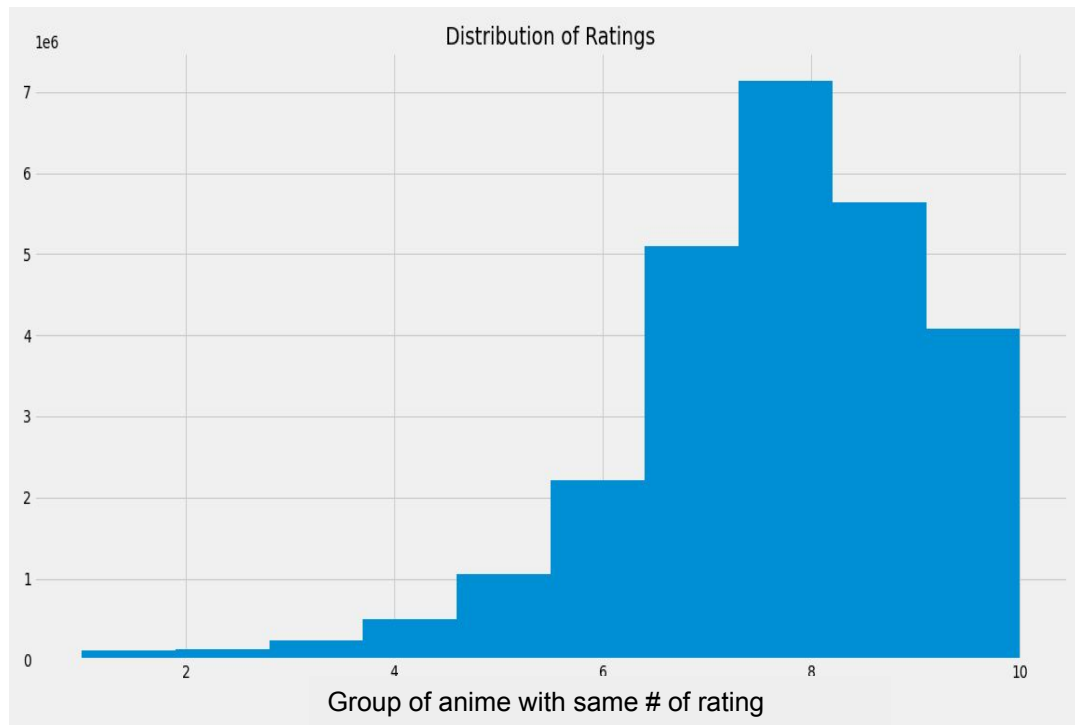


Business Problems

Build a recommendation system to better direct users to new anime

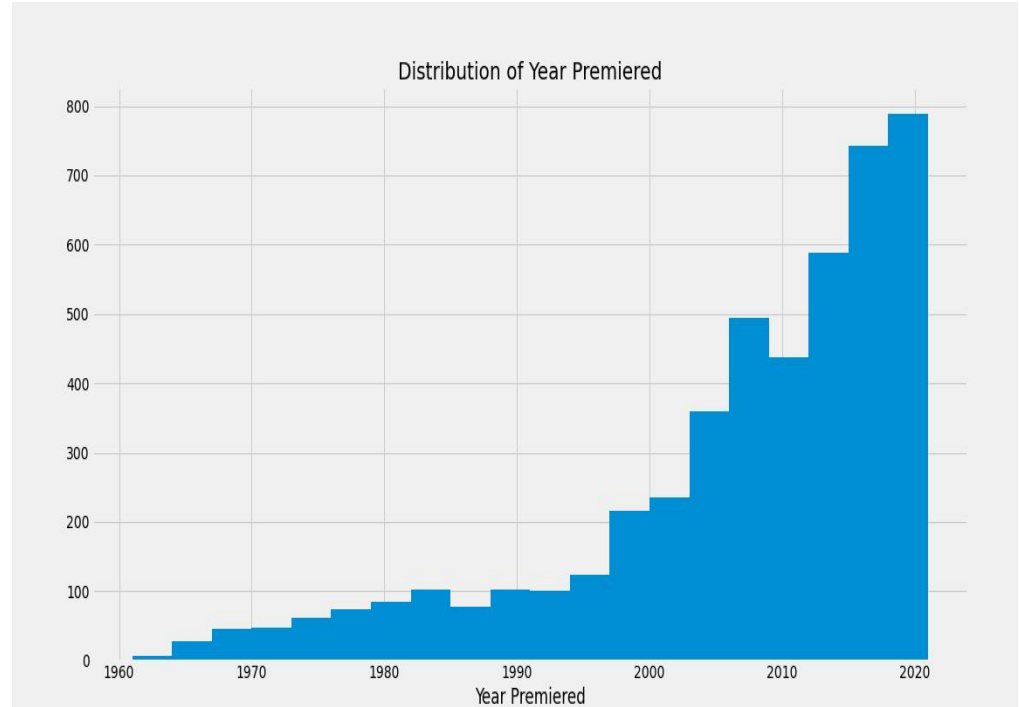
Distribution of Ratings

- Left-skewed
- People trend to rate more in high rating anime



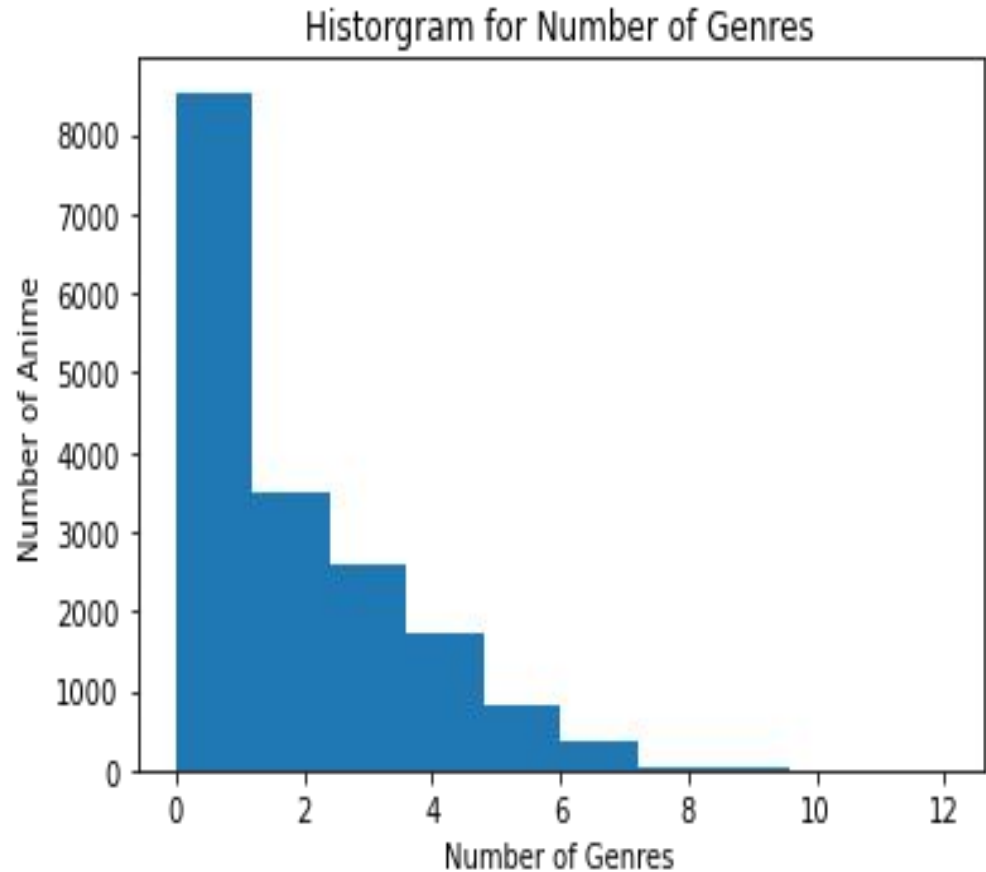
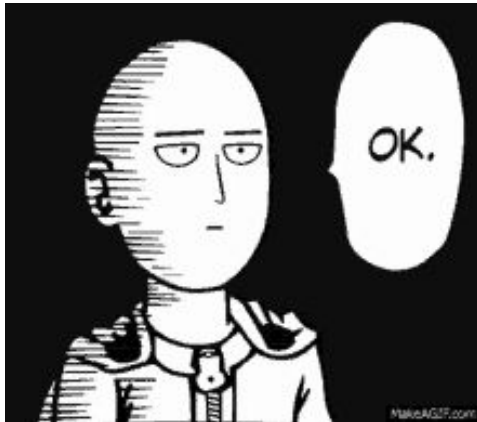
Growing Market

- **191** shows premiered last year vs 57 in 2000
- Multiple seasons!



Complexity

- Most anime are not easy to categorize.
- Many have between 2-5 genre tags
- One Punch Man has multiple genres.
tagged: Action, Sci-Fi, Comedy,
Parody, Super Power, Supernatural.





Data & Methodology

Data

- Kaggle Dataset scraped from My Anime List in March
- 109M+ reviews
- ~325k Users
- ~17k Titles
- 1-10 rating scale
- Genre, Popularity, Rating data available



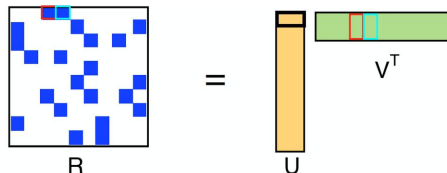
Methodology



Cleaning

Filtered data down to more manageable size and removed unsavory genres (Air time < 1 min.)

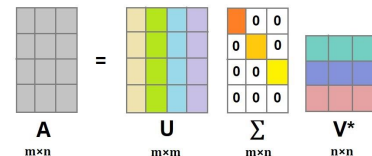
Alternating Least Squares



ALS

Matrix factorization technique from **PySpark** library

Single Value Decomposition



SVD

Matrix factorization technique from **Surprise** library



Results

ALS RMSE: ~ 5.6

SVD RMSE: ~ 3.0

New User Anime Added

Anime Name	Score Given	Genre
Cowboy Bepop	7	Action, Adventure, Comedy, Drama, Sci-Fi, Space
Trigun	7	Action, Sci-Fi, Adventure, Comedy, Drama, Shounen
Neon Genesis Evangelion	10	Action, Sci-Fi, Dementia, Psychological, Drama, Mecha
Konosuba 2	10	Action, Comedy, Parody, Supernatural, Magic, Fantasy
Akame ga Kill!	5	Action, Adventure, Drama, Fantasy, Shounen
Kill La Kill	8	Action, Comedy, Super Power, Ecchi, School
Is It Wrong to Pick Up Girls in a Dungeon?	1	Action, Adventure, Comedy, Romance, Fantasy

How Did It Do?(10 Recommendations)

4



**Seen and
Liked**



2



**Recommended
by Other
Services**

1



**New to Me
but Ramil
Said is
Good**

3



**Never
Heard of,
Look Good**

Conclusions / Next Steps

- Best model was an SVD model with ~ 3.0 RMSE
- Results appear to make sense
- May need to break down data more
- Questions about combining seasons
- Rated shows sometimes appeared in suggestions



THANKS!

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