Anime Reccomendation System
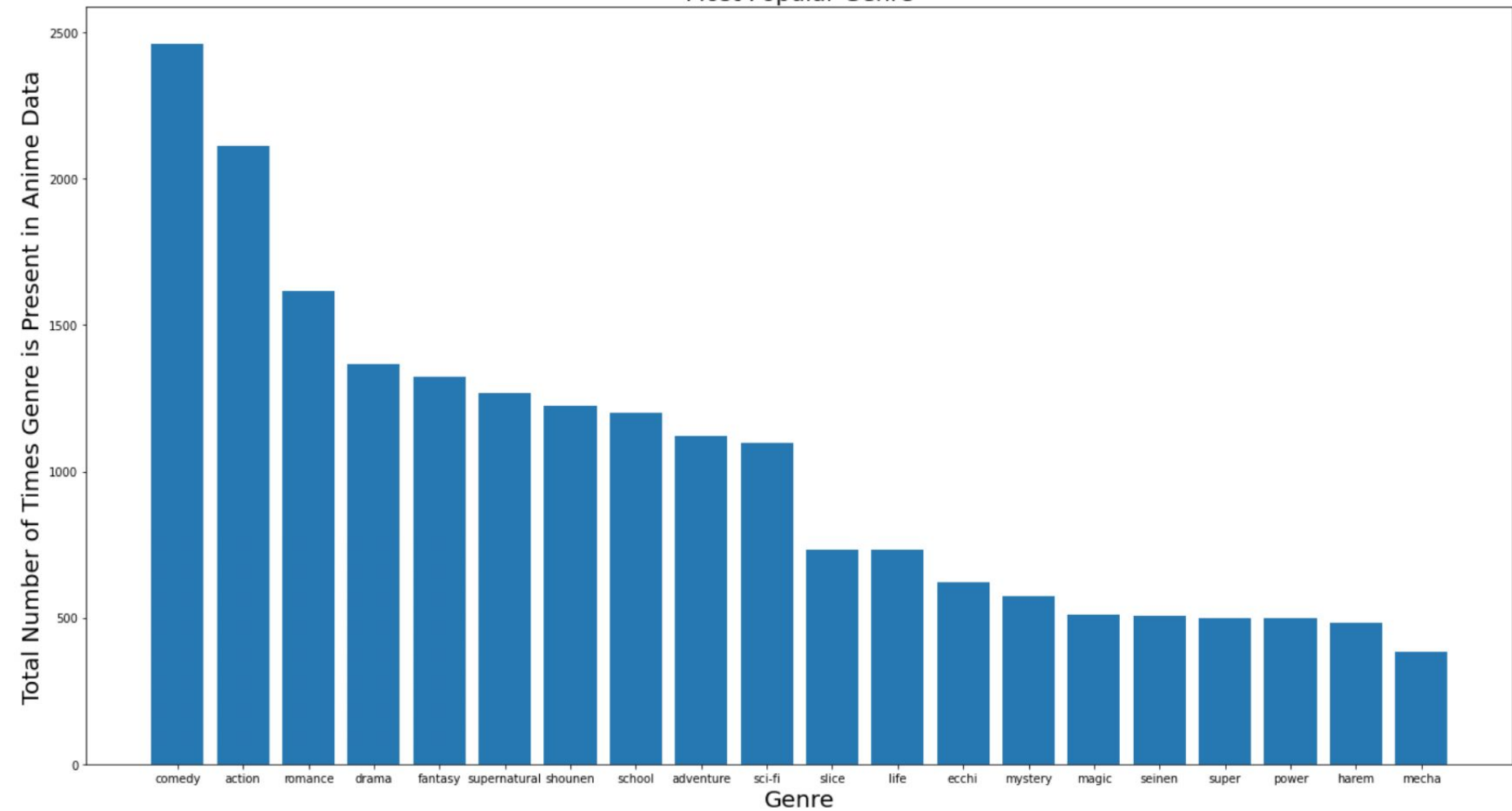
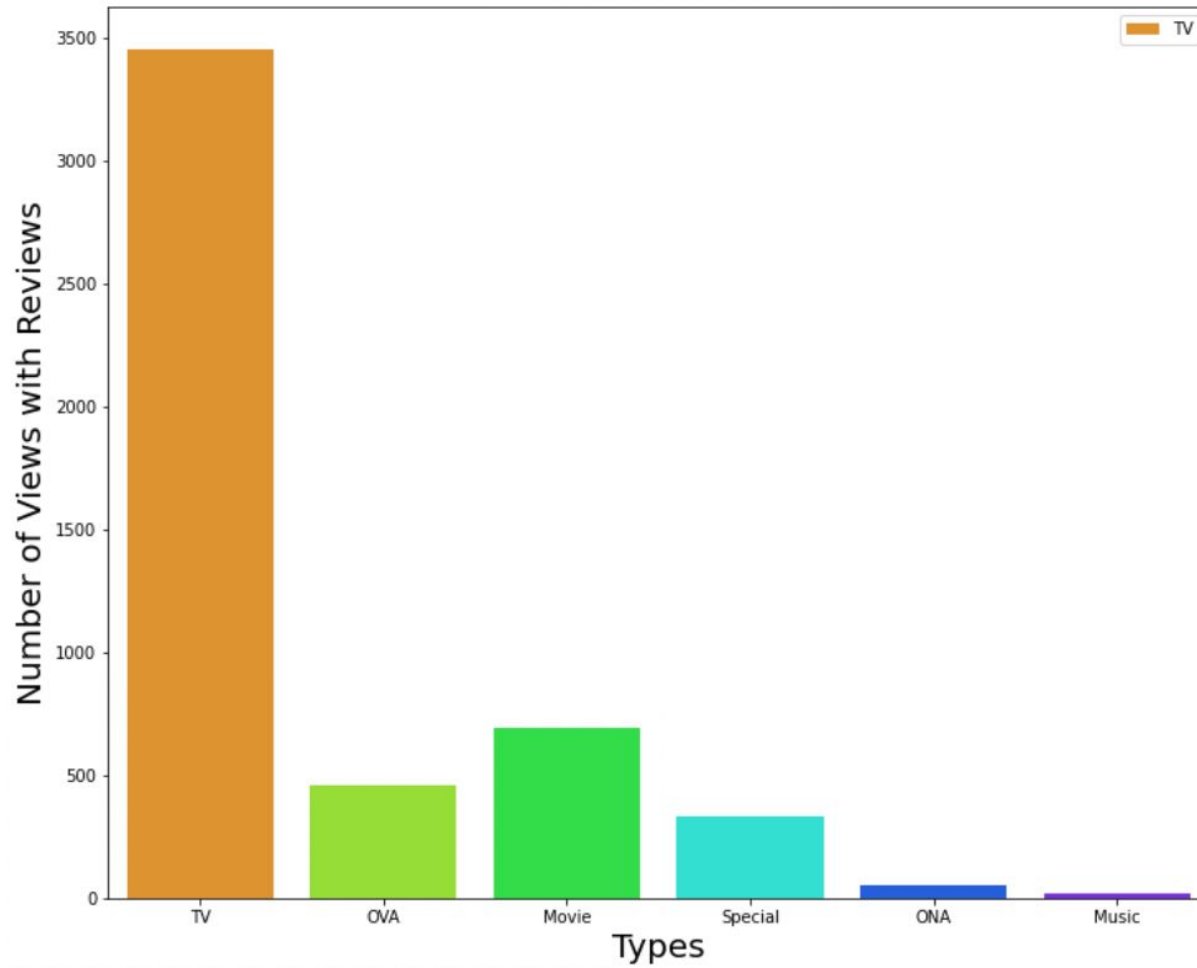Anila Qureshi

Business Overview

Anime is a hand drawn and computer animation originating from Japan. Its visual nature is a big part of its appeal to its viewers. 60 % of all animation originates from Japan. This reaches about 87% of the global population. This does not mean it is watched by 87% of the world. During uncertain times such as the covid19 pandemic, it important to build strength and growth in areas that are holding a steady pace in order to help make up for the economic downturn in other sectors of each country's economy.

Japan has recently been one of the first to declare a nationwide recession due to covid19.
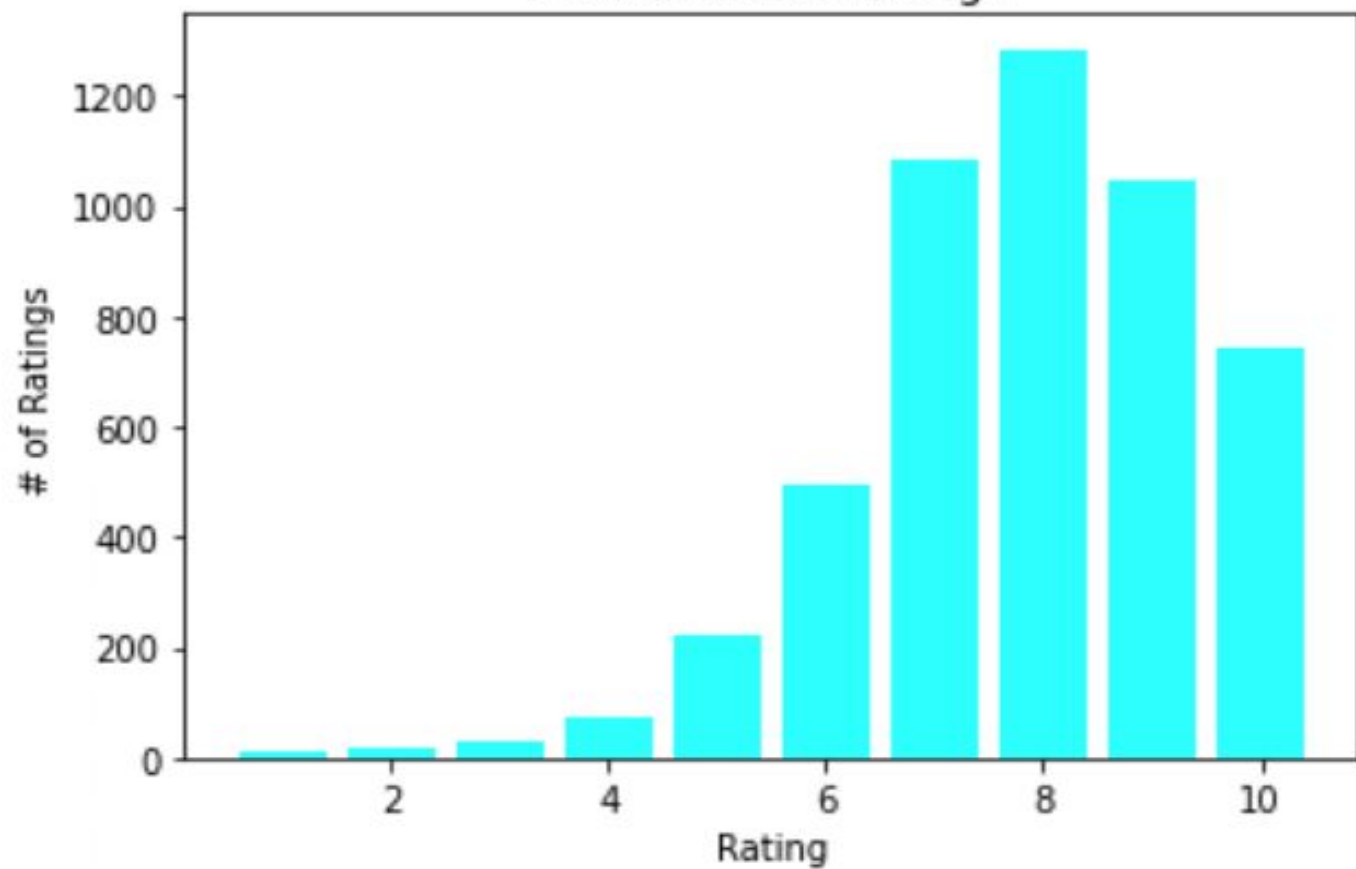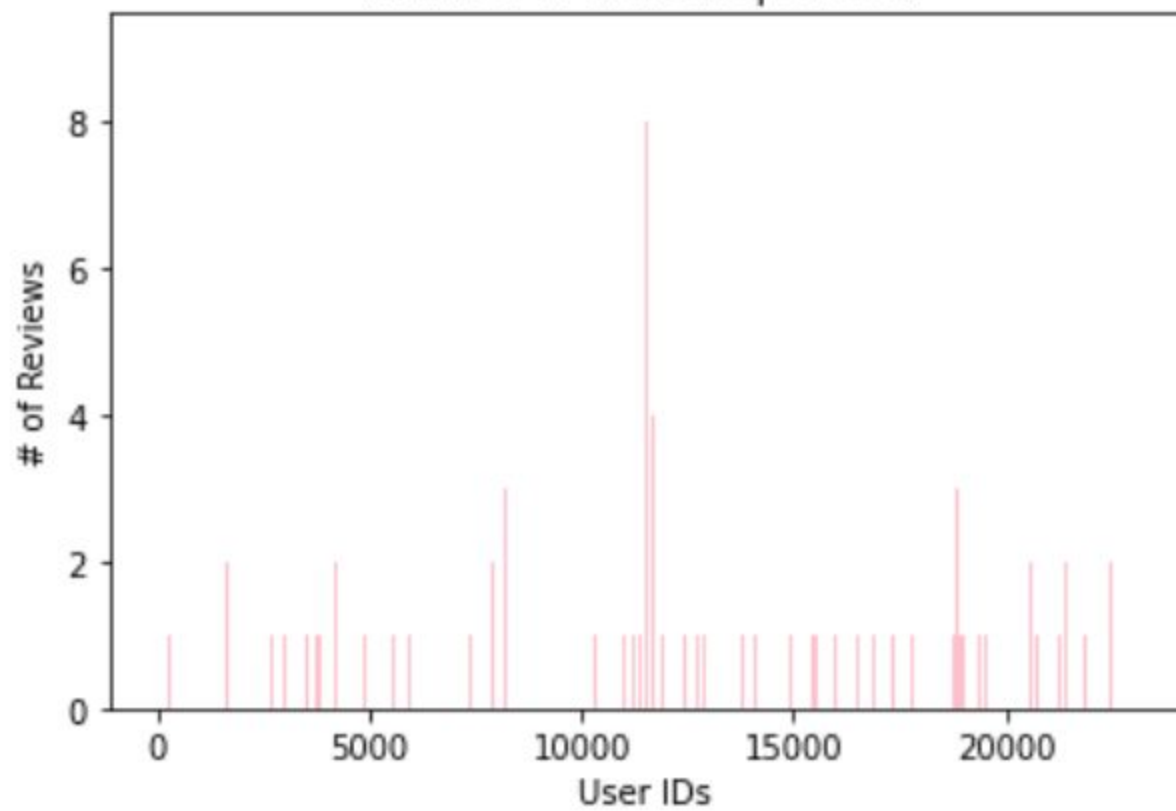
Most Popular Genre

Most Viewed Anime

Distribution of Ratings

Number of Reviews per User

Methodology

- Created a baseline model using singular value decomposition (SVD).
- Will then introduce other models that are user and item based.
- GridSearchCV and cross-validation will also be conducted on all models

Baseline Model

- The RMSE shows that there is no good or bad threshold for the base model. (SVD)

```
predictions = svd.test(testset)
accuracy.rmse(predictions)
```

```
RMSE: 2.3128
2.31279052222911997
```

Top Performing Model

Content Based - even though its overfit.

```
print(svd.explained_variance_ratio_.sum())
```

```
0.99625587733287571
```

Suggestions

- My current suggestions for my project are to go back and conduct an ALS model
- I have started on both an Alternating Least Squares model and a content based model
  - Content based model has used SVD to fit and obtained an explained variance ratio of .99633
  - Have not been able to further analyse similarities between TF-IDF
  - I would like to debug code and follow through with ALS and TF-IDF
- Additional models: decision trees,
- Go back and include unrated to see its impact on the recommendation system

Sources

http://news.mit.edu/2013/the-soul-of-anime-0129

https://uk.reuters.com/article/uk-japan-economy-gdp/japan-slips-into-recession-worst-yet-to-come-as-pandemic-wreaks-havoc-idUKKBN22T0VF

https://www.google.com/search?q=japan+first+to+claim+nationwide+recession&rlz=1C5CHFA_enGB891GB891&oq=japan+first+to+claim+nationwide+recession&aqs=chrome..69i57j33.6696j0j4&sourceid=chrome&ie=UTF-8