

Anime Recommender

Problem statement

Develop a recommendation system that accurately predicts and suggests anime titles for two distinct user groups. For existing users with a rating history, the system will predict individual ratings for unseen anime with a minimum accuracy of 70% and recommend titles that are predicted to be rated highly by these users. For users new to the platform, the system will recommend anime titles that have historically received the highest average ratings from other new users.

Context

The popularity of anime has seen a global increase, with diverse audiences consuming a wide range of genres. While streaming services offer vast collections of anime, we would like to provide audiences with anime recommendations that best match their interest.

Criteria for success

1. Recommendation System Development:

Develop and deploy a robust anime recommendation system that caters to two distinct groups of users—existing users with rating histories and new users without extensive interaction data.

2. Accuracy for Existing Users:

Achieve a prediction accuracy of at least 70% for estimating user ratings on unseen anime.

3. Recommendations for New Users:

Implement a method to recommend anime for new users based on the highest average ratings given by other new users within their first month of platform usage.

Scope of solution space

The recommendation system will explore several approaches to refine and personalize anime suggestions:

- Collaborative Filtering: Both user-based and item-based methods to predict user preferences based on similar users and items.
- Content-Based Filtering: Using detailed metadata from anime to recommend similar items.
- Hybrid Approach: Combining collaborative and content-based filtering to leverage the strengths of both methods.

Constraints

- For new users, or users with little rating history, the analysis will be limited due to a lack of data
- For new animes or animes with little rating history, the analysis will be limited due to a lack of data

Data sources

<https://www.kaggle.com/datasets/CooperUnion/anime-recommendations-database?select=rating.csv>