

Popularity-based Book Recommender System

Here's a summary of the steps involved in creating this popularity-based book recommendation system, focusing on the algorithmic aspects:

1. Data Preparation:

- Merged ratings data with book data using ISBN as the key.
- Removed ratings with invalid or problematic values.
- Converted ratings to numeric type.

2. Calculating Popularity Metrics:

a. Number of Ratings:

- Grouped the data by 'Book-Title'.
- Counted the number of ratings for each book.

b. Average Rating:

- Grouped the data by 'Book-Title'.
- Calculated the mean rating for each book.

3. Creating Popularity DataFrame:

- Merged the number of ratings and average ratings dataframes.

4. Filtering and Sorting:

- Applied a popularity threshold, keeping only books with at least 250 ratings.
- Sorted the results based on average ratings.

5. Final Dataset Preparation:

- Merged the popularity data with additional book information (author, image URL).
- Removed duplicate entries based on 'Book-Title'.
- Selected relevant columns for the final recommendation dataset.

The core algorithm here is essentially a sorting operation based on two factors: the number of ratings (as a measure of popularity) and the average rating (as a measure of quality). The system recommends books that have both a high number of ratings and high average ratings, assuming these are likely to be popular and well-liked by many readers.

This approach is relatively simple but can be effective for providing general recommendations. It doesn't take into account individual user preferences, making it more of a "one-size-fits-all" recommendation system rather than a personalized one.

