Problem Statement: Collaborative Filtering Based Book Recommender System

In the era of online bookstores and vast digital libraries, users often face the challenge of discovering new books tailored to their preferences. To address this issue, the goal is to develop a Collaborative Filtering Based Recommender System that suggests books to users based on their historical ratings and the preferences of similar users.

Top 50 books workflow

popularity based system

Count Total Ratings as Num-Rating

Group by Book Title

Merge Ratings & Books on ISBN

Data Preparation

Calculate Average Rating per Book

Display Top 50 on user interface

Sort by Avg-Rating in Descending order

Filter Books with Num-Rating >= 250

Merge Num-Rating & Avg-Rating on Book Title

Recommending books for particular books

Processed Information

Search for relevant Information

User

Request

Collaborative based filtering

Recommending 10 Books

User Interface

Collaborative filtering system

Create Pivot Table (User x Book)

Filter Ratings for Selected Users, Books with Ratings > 50

Filter Users with Ratings > 200

Get User IDs of Filtered Users

Data Preparation

Compute Similarity Scores using Cosine Similarity

Display Top 10 Recommended Books

Retrieve Book Informations

Sort Similar Items by Similarity Score

Fetch Index of Input Book

Recommend Books Based on Similarity