
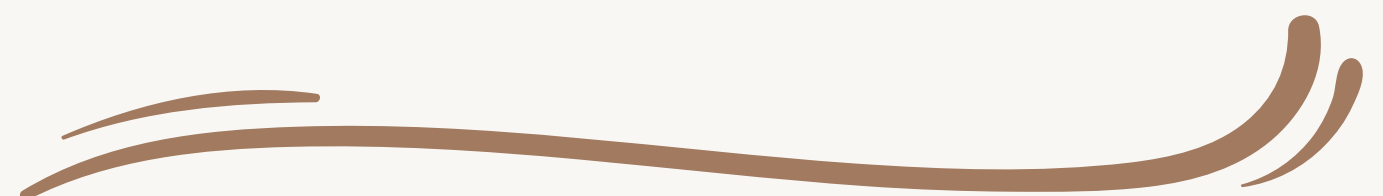




# BOOK RECOMMENDATIONS SYSTEM



★ People who love reading  
by Mili Thakrar



# INTRODUCTION

In a world full of countless books, finding the perfect one can feel overwhelming. This project uses smart technology to understand your tastes and reading habits, guiding you to books that truly resonate. The result? A simple, personalized way to discover your next favorite story.





# PROBLEM AREA

- Too many books, hard to choose.
- Reduced motivation to read.
- Overwhelmed by recommendations.
- Hard to find niche interests.
- Generic suggestions don't fit.





# DATA SCIENCE SOLUTION

BUILDING A SMART BOOK MATCH MAKER

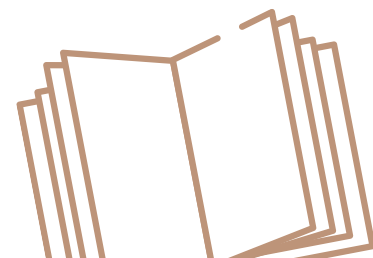


## Hybrid Recommendation Engine:

- Collaborative + Content-based filtering
- Considers: reading history, ratings, similar readers, book "DNA"

## Process:

- Analyze reader data
- Decode book essence
- Develop reader-book matching algorithms
- Fine-tune recommendations





# WORKFLOW

1

## Data preprocessing and Cleaning

- Analyzing data quality & missing values
- Feature engineering and combining data

2

## Data Analysis and Visualization

- Looking at the distribution and key visualizations
- Hypothesis testing

3

## Baseline Modeling

- Popularity based model
- Baseline Logistic Regression model
- Content based - Cosine Similarity with Word Embedding

4

## Advance Modeling

- Collaborative filtering Model
- Hybrid (Mix of content and collaborative)



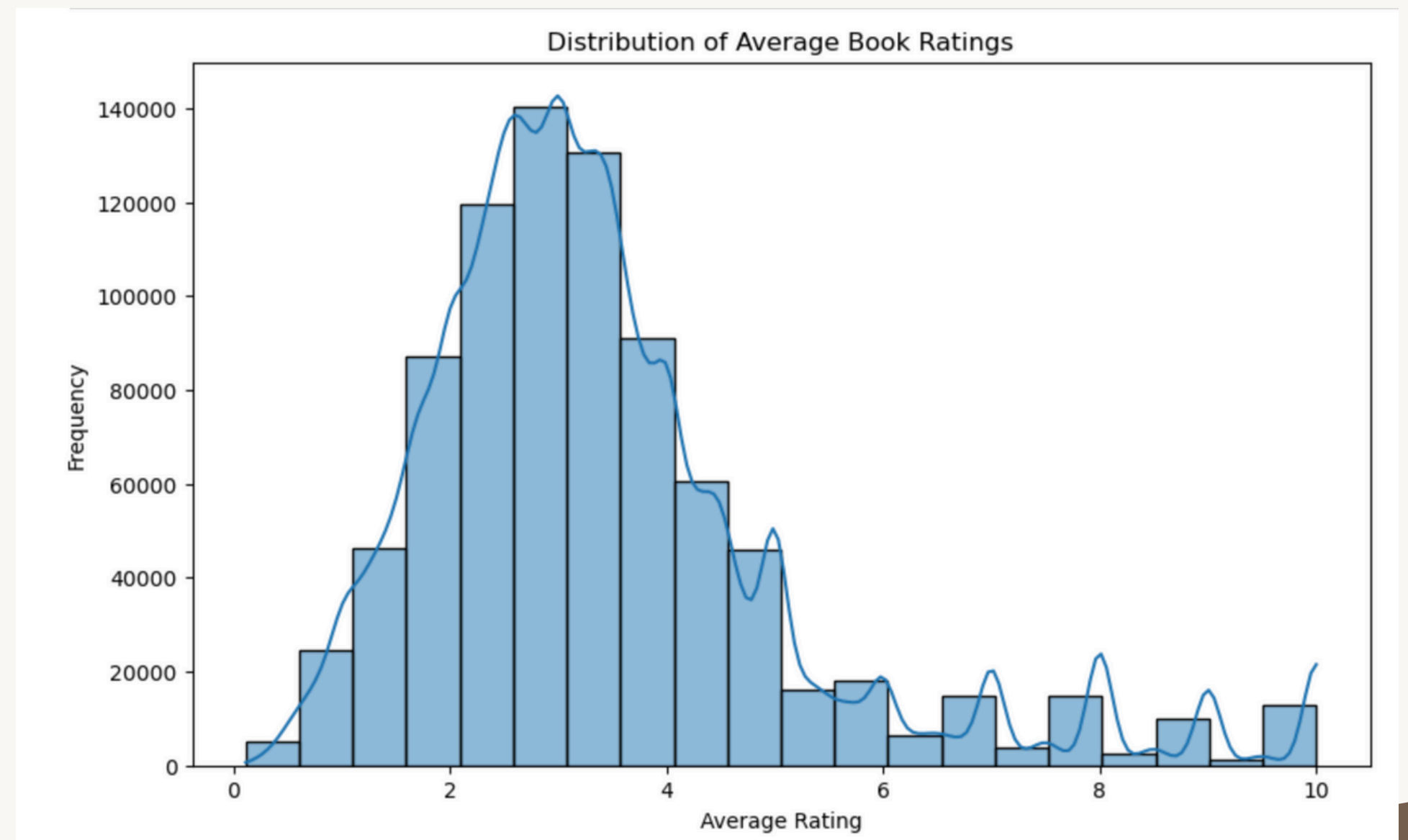
# Data Preprocessing

## Preprocessing steps

- Accounted for arbitrary values
- combined all three csv files into one
- Feature engineered columns such as Avg. ratings

## Main Dataset

- 851,505 rows and 16 columns
- Target for Baseline - Ratings



# Impact and Benefits

- Makes finding enjoyable books easy and fast.
- Boosts reader satisfaction and loyalty.
- Enhances customer service with personalized suggestions.
- Increases sales by matching readers with books they want.
- Encourages discovery of diverse titles.
- Offers insights to improve business strategies.



# Limitations

- **Genre data was not available** (was able to get this information for top 10,000 books), limiting accurate matches; full genre info would boost precision.
- **Missing book descriptions** reduced the model's ability to understand and recommend diverse titles.
- **No user feedback** made it harder to personalize and improve recommendations.

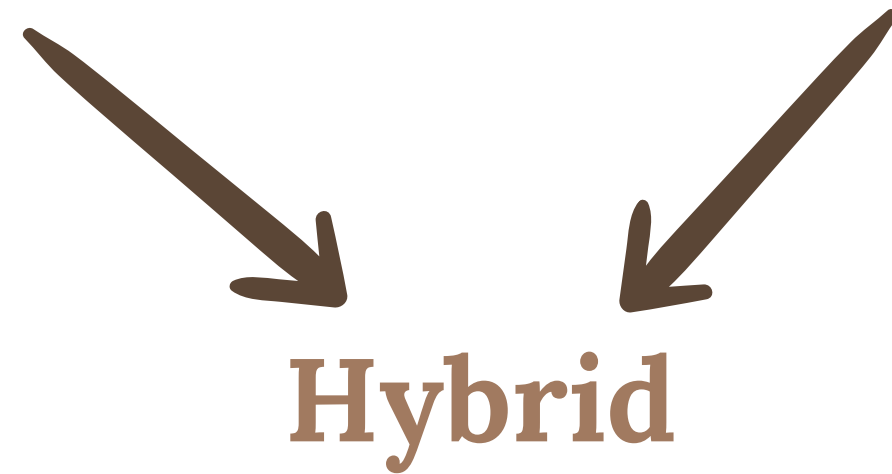
Addressing these would make the system more accurate, relevant, and user-focused.



# The Recommendation Engine

Collabrative

Content



Top 10 Book  
Recommendations

## Book Recommender

Welcome to the Book Recommender!

Discover new books tailored to your tastes.

This app uses both your favorite books and your reading history (if available) to suggest titles you'll love.

Select a book you like below, and get personalized recommendations!

Search Book Title

harry

Select from matches

Harry Potter and the Prisoner of Azkaban (Book 3)

Enter User ID (optional)

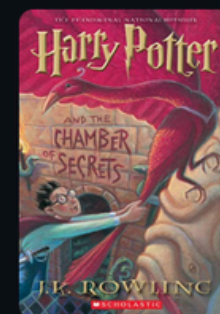
Recommend Me Some Books



Harry Potter and the Prisoner of Azkaban (Book 3)

Author: J. K. Rowling

Genre: Fantasy fiction, orphans, foster homes



Harry Potter and the Chamber of Secrets (Book 2)

Author: J. K. Rowling

Genre: Fantasy fiction, school stories, Fiction



**THANK YOU**