AI-Based Book Recommendation System

Andy Thaosen

I Student, Department of Management, St. Joseph's University, #36, Lalbagh Road, Bengaluru, Karnataka, India

ABSTRACT

The aim of this research is to create a simple AI-based system that helps users find books they will like based on their reading history or preferences. This model uses basic machine learning techniques to understand user interests and recommend books accordingly. It works by analyzing past choices or inputs given by the user and then suggesting similar books. The system is easy to use, does not require complex knowledge to operate, and helps readers discover new books that match their taste. This recommendation system can be used by schools, libraries, or personal users. It can also save time and effort for people who find it hard to decide what to read next. The system was tested with a sample user base and showed accurate and helpful suggestions. The model is built to be cost-effective, requiring minimal hardware or processing power. The interface is clean and friendly, so even first-time users can use it without confusion. The idea is to promote reading and make book discovery more efficient and fun. With future improvements, this system can be connected with online libraries or bookstores to provide a more complete experience.

Keyword: AI, Book Suggestions, Machine Learning, User Preferences

1. INTRODUCTION

Today, people have access to a large number of books but often struggle to choose what to read. This paper discusses an AI-based book recommendation system that helps users by suggesting books based on their reading habits. It makes use of basic machine learning to understand user preferences and provide suggestions.

1.1 Sub Title-1

The recommendation system uses simple algorithms to match user profiles with book categories. It improves over time as more data is added.

1.2 Sub Title-2

This project focuses on making the system simple so that even users with little technical background can benefit from it. It is ideal for students and beginner programmers.

2. METHODOLOGY

The system uses a content-based filtering approach. It compares new books with what users have liked before and finds similarities in genre, author, or subject. User input can be direct (ratings) or indirect (browsing time).

2.1 Sub Title-1

The model uses basic data collection methods like user forms or book selection history. The engine processes this data to make accurate suggestions.

3. IMPLEMENTATION & RESULTS

The system was tested with students and library visitors. It showed correct recommendations in most cases. Users found it helpful and time-saving.

3.1 Sub Title-1

The recommendations were based on user data like preferred genre and favorite author. Feedback was collected and used to improve the logic.

4. CONCLUSIONS

This project shows that AI can be used effectively in simple tasks like book suggestions. It is an educational tool that also supports reading. With further improvements, the system can be more personalized. To enhance the quality of recommendations, hybrid models are often used. These models combine both collaborative filtering and content-based techniques to deliver more accurate and personalized book suggestions. By leveraging the strengths of both models, hybrid systems can overcome individual limitations, such as the cold-start problem or sparse user data.

The system can also benefit from Natural Language Processing (NLP) to extract insights from book descriptions, summaries, and reviews. By using sentiment analysis, it becomes possible to determine how positively or negatively a book has been received, helping in further filtering suggestions.

A key feature that can be integrated is a user feedback loop. When users rate or review recommendations, the system learns from this feedback, continuously refining its future outputs. Over time, this adaptive learning greatly enhances user satisfaction.

Moreover, the system can be deployed as a web application or mobile app, allowing users to access it anytime and anywhere. Cloud-based deployment ensures scalability and ease of updates, while mobile compatibility increases user engagement.

Privacy and data security are vital in such systems, especially since user preferences and behavioral data are involved. Ensuring that data is anonymized and stored securely helps build trust and encourages wider adoption.

5. ACKNOWLEDGEMENT

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6. REFERENCES

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