

MOVIE RECOMMENDATION SYSTEM

BY:

KELSY MAINA

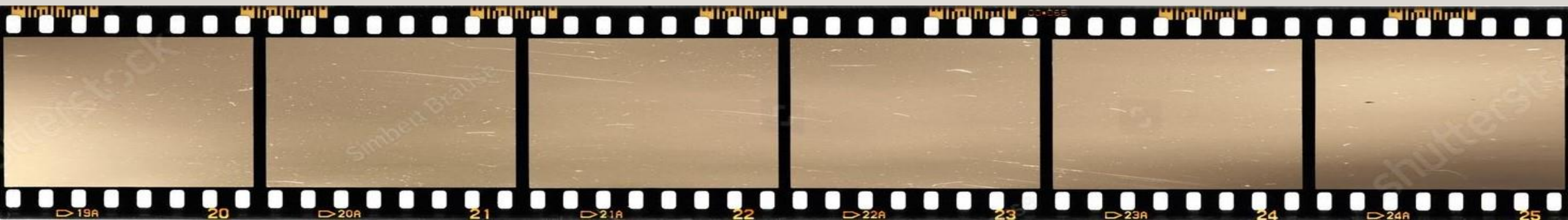
SAMUEL WANGA

TITUS KALUMA



PROJECT OVERVIEW

- Introduction to recommendation systems
- Relevance in the movie industry
- Brief overview of the movielens dataset



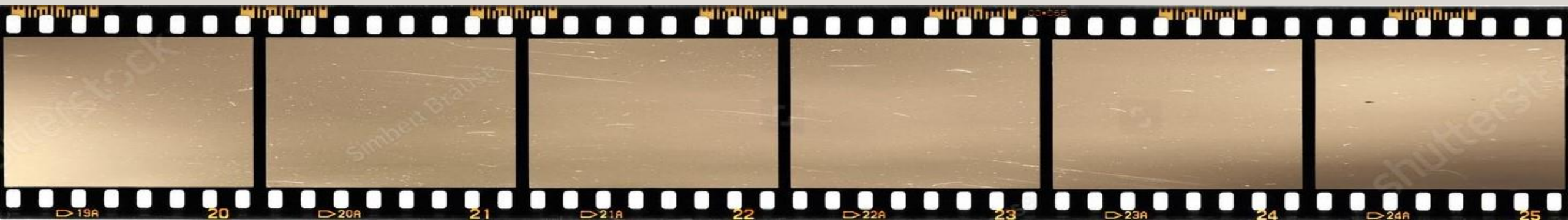
BUSINESS UNDERSTANDING

Goals of the movie recommendation system:

- Enhancing user engagement and satisfaction
- Improve user retention

Challenges addressed:

- Cold start problem
- Data sparsity

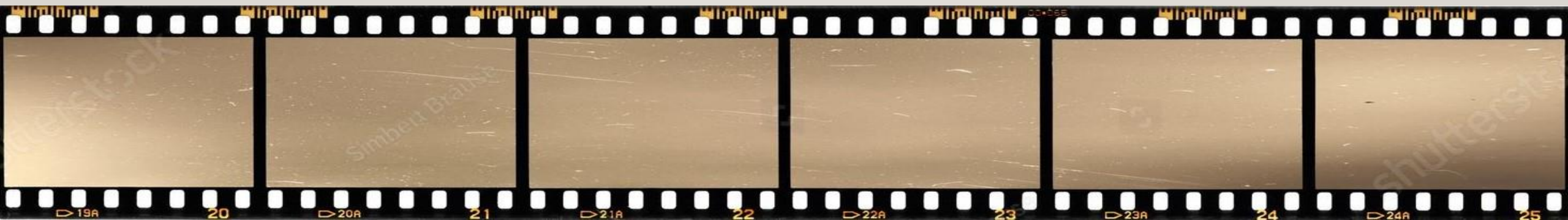


DATA UNDERSTANDING

Data source: Movie Lens Dataset by GroupLens Research Lab

Dataset Composition:

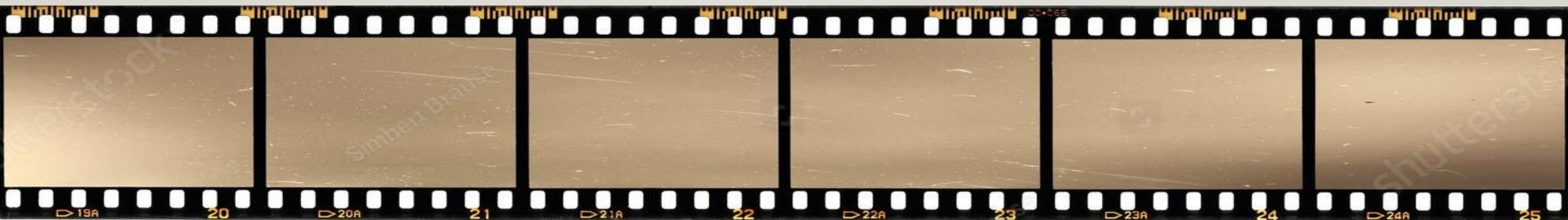
- 100,836 ratings across 9,742 movies
- Data collected from 610 users



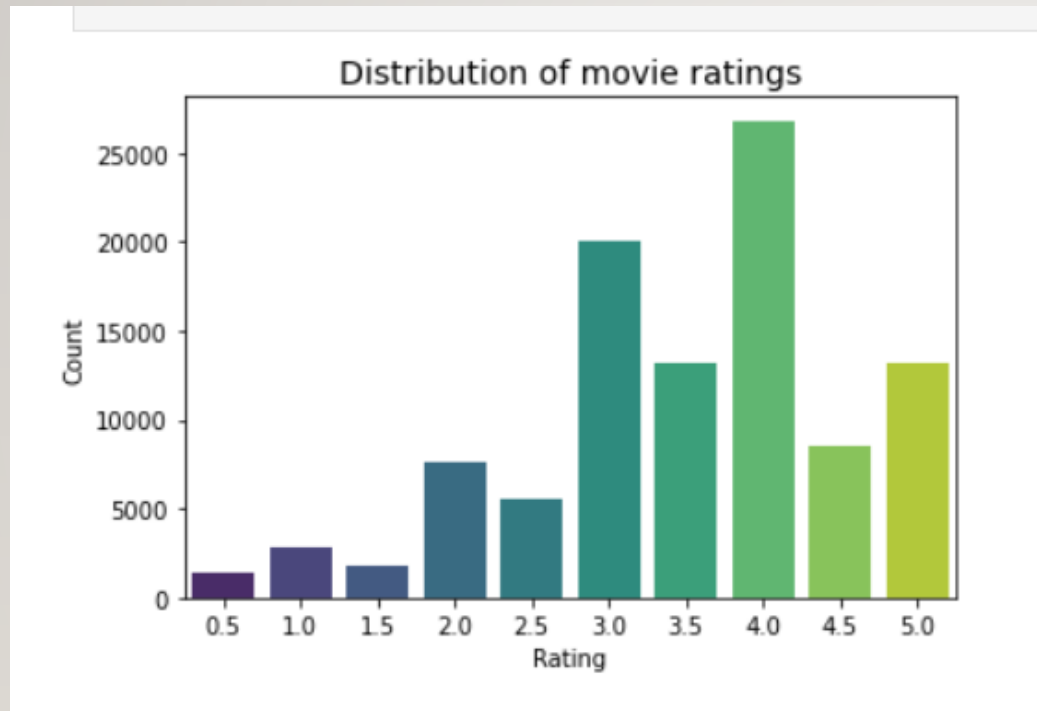
THE PROCESS

- Data cleaning
- Exploratory data analysis
- Building a hybrid recommender system:

Combining collaborative and content-based filtering for better recommendations while addressing challenges like the cold start problem.



FINDINGS

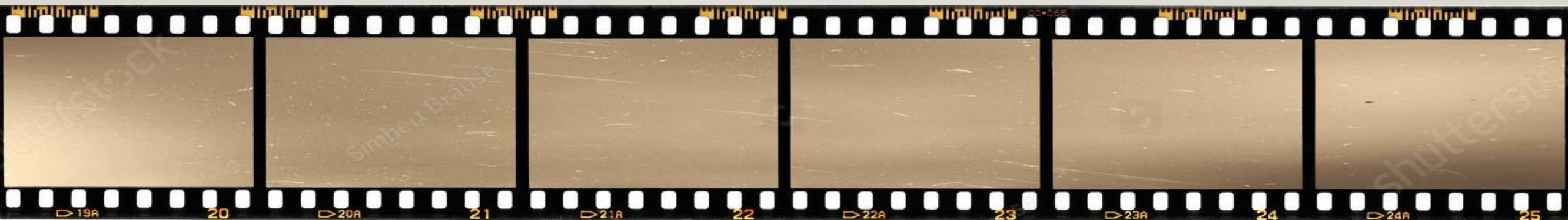


Majority of the movies have an high rating of 4.

CONCLUSION

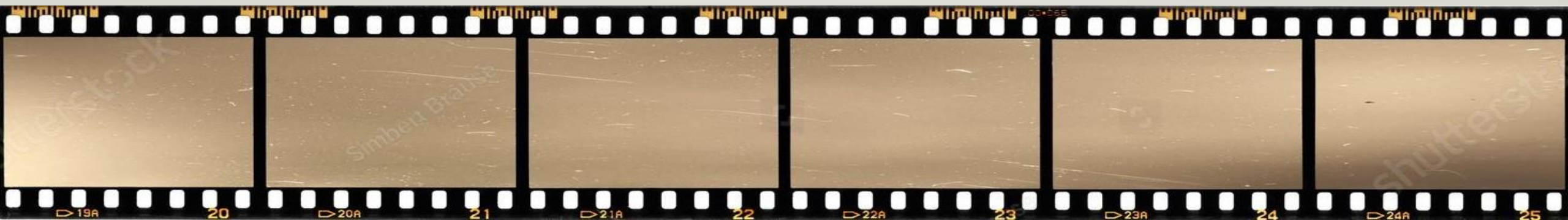
Implementation of a hybrid system avoids the shortcomings of either collaborative or content-based systems while achieving accuracy, diversity and novelty from the generated recommendations.

The effectiveness of the subject system leads to enhanced user experience and higher platform engagement.



RECOMMENDATIONS

1. *Ongoing Optimization*: Continue to refine and optimize the collaborative filtering and content-based algorithms based on ongoing user feedback and evolving data to maintain high recommendation quality.
2. *Regular Updating*: Regularly update the model with new user ratings and movie data to ensure that recommendations stay relevant and reflect current user preferences.
3. *User Feedback Integration*: Systematically collect and analyze user feedback to identify areas for improvement and make data-driven adjustments to continue enhancing satisfaction.
4. *Explore Advanced Techniques*: Investigate the integration of additional advanced recommendation techniques, such as deep learning models or reinforcement learning, to further improve recommendation accuracy and personalization.
5. *Enhance Diversity and Novelty*: Continue to focus on increasing the diversity and novelty of recommendations to keep the user experience engaging and prevent content stagnation.



FUTURE WORK

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1. *Ongoing Optimization*: Implement adaptive learning and dynamic parameter tuning to refine recommendation algorithms based on real-time user feedback and evolving data patterns.
 2. *Regular Updating*: Integrate real-time data processing for instant model updates and establish version control to manage and stabilize recommendations.
 3. *User Feedback Integration*: Create robust feedback loops and use sentiment analysis to systematically incorporate user interactions and refine recommendations.
 4. *Explore Advanced Techniques*: Investigate deep learning, reinforcement learning, and hybrid models to enhance recommendation accuracy and personalization.
 5. *Enhance Diversity and Novelty*: Track diversity metrics, balance exploration and exploitation, and use novelty algorithms to keep recommendations fresh and engaging.



THE END

