

The Cinematic Nexus: Unveiling the Future of Movie Recommendations and Analysis

A CineConnect Project

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Overview



Our company (CineConnect)

CineConnect is a cutting-edge startup poised to disrupt the movie streaming industry and rival giants like Netflix, Hulu, Apple TV+, and HBO max.

CineConnect, derived from "Cinematic Nexus," signifies the company's commitment to creating a cinematic hub that connects users with personalized and engaging movie experiences. With a focus on films ("Cine") and the power to connect users ("Connect"), the company's platform aims to redefine the way users discover and interact with movies.



Our idea

The objective is nothing short of revolutionizing the movie streaming experience through the development of a dynamic recommendation and analysis platform. Unlike traditional models, CineConnect incorporates an advanced recommendation system that integrates collaborative, content-based, and genre cluster models. This project aims to set new standards for accuracy and diversity in movie recommendations and redefine the way users connect with the cinematic world.

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A FILM BY ANTHONY
AMADASUN

CINEMATIC NEXUS



01

Problem Statement

Problem Statement

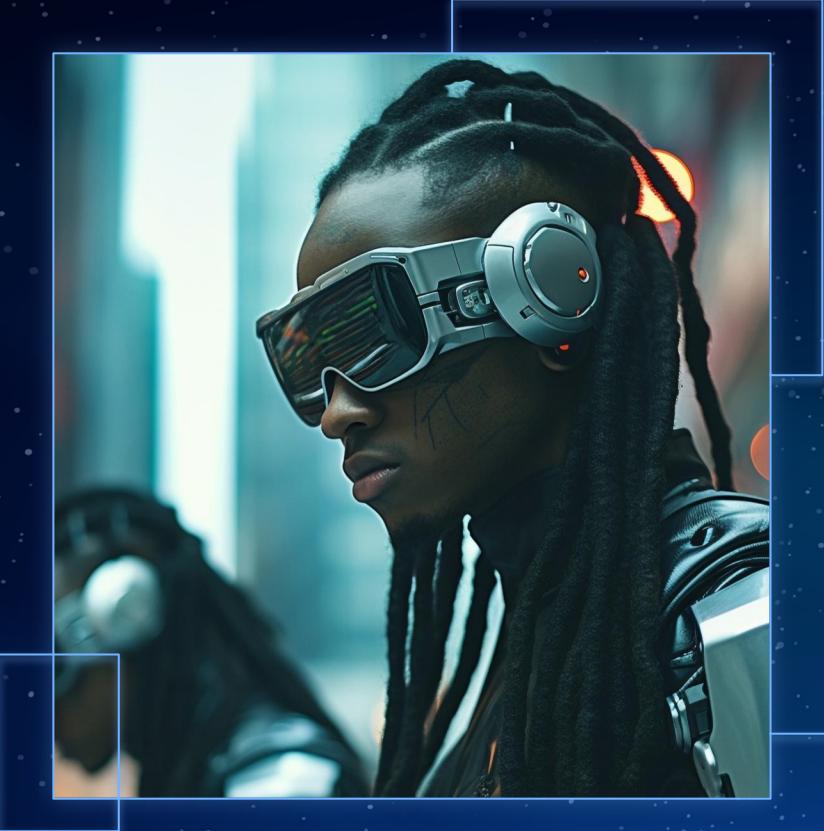
The current landscape of recommendation systems faces challenges such as data sparsity and the static nature of existing models.

CineConnect aspires to overcome these hurdles by introducing advanced collaborative, content-based, and genre cluster models, ensuring optimal accuracy and diversity in movie recommendations.

The company's goal is not just to compete but to lead in offering users a dynamic and personalized connection to the cinematic world.

The success of this project will be measured not only by the company's ability to compete with industry giants in the long run but also by the significant improvements in recommendation accuracy and diversity for advanced user preferences.





02

Data Dictionary & API Integration



Data Dictionary and API Integration

Important Concept and Terminology

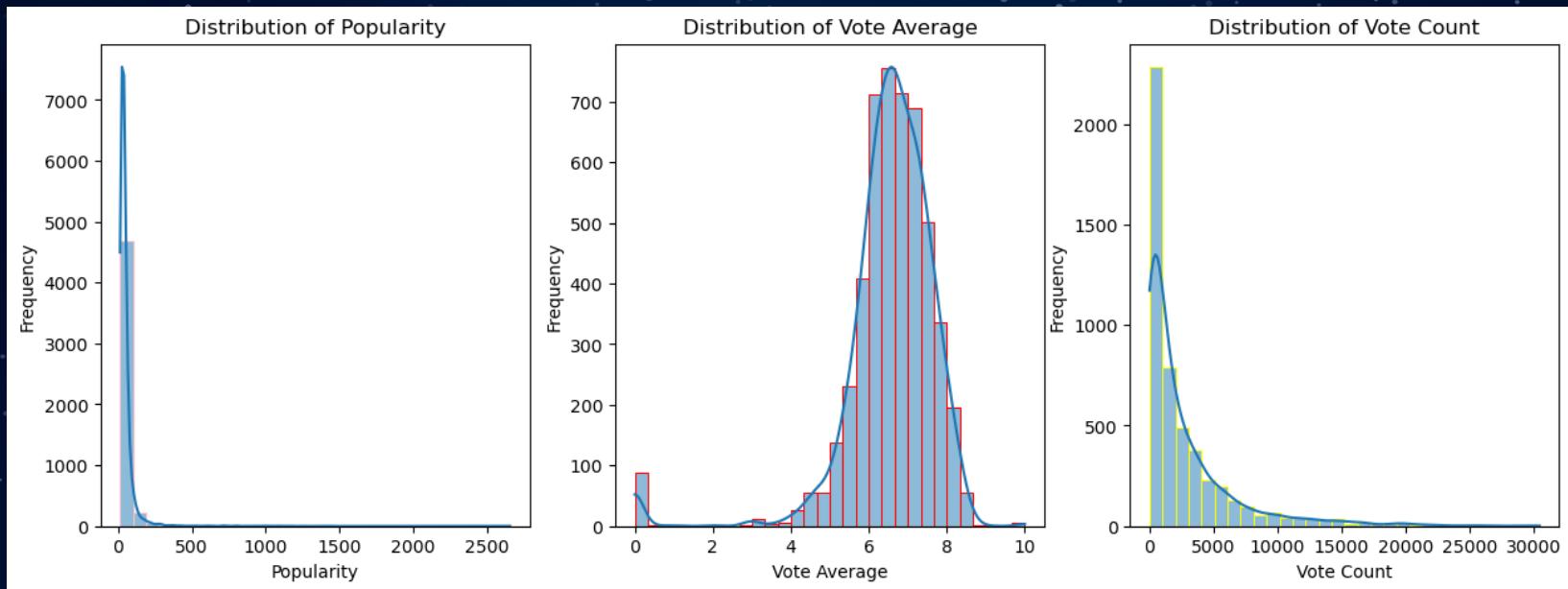
<u>Popularity</u>	The popularity of a movie is a metric that represents its relative popularity compared to other movies in the dataset. Higher popularity values typically indicate that a movie is more widely known or discussed.
<u>Vote Count</u>	The vote count represents the number of votes a movie has received. Higher vote counts generally indicate that more users have expressed their opinion about the movie by voting.
<u>Vote Average</u>	The vote average is the average rating given to a movie by users who have voted. Higher vote average values suggest that the movie has received more positive ratings from users.
<u>TMDB(The Movie Database)</u>	The Movie Database (TMDB) is a community built movie and TV database. Every piece of data has been added by our amazing community dating back to 2008. TMDB API played a pivotal role in overcoming data sparsity by enriching the dataset with a diverse set of movies and additional details.
<u>Collaborative Filtering</u>	Analyzes user interactions with movies, finding similarities between users and recommending movies based on the preferences of similar users.
<u>Content-Based Filtering</u>	Recommending movies by analyzing the inherent characteristics of movies, such as genres, directors, actors, and textual descriptions.
<u>Unsupervised Genre Clustering</u>	Organizes movies into genre clusters; grouping movies with similar characteristics, especially in terms of popularity and user ratings.



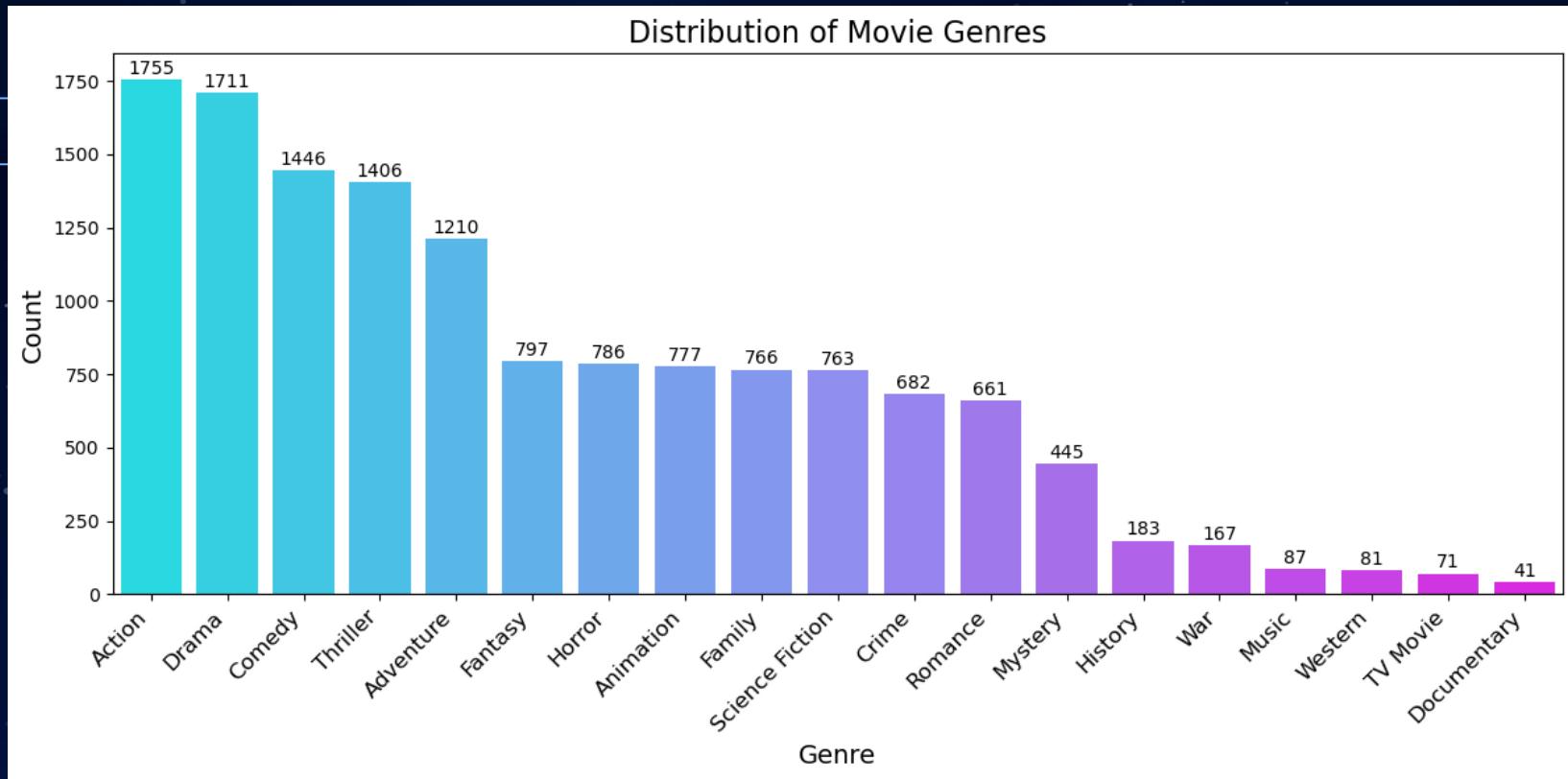
03

Exploratory Data Analysis

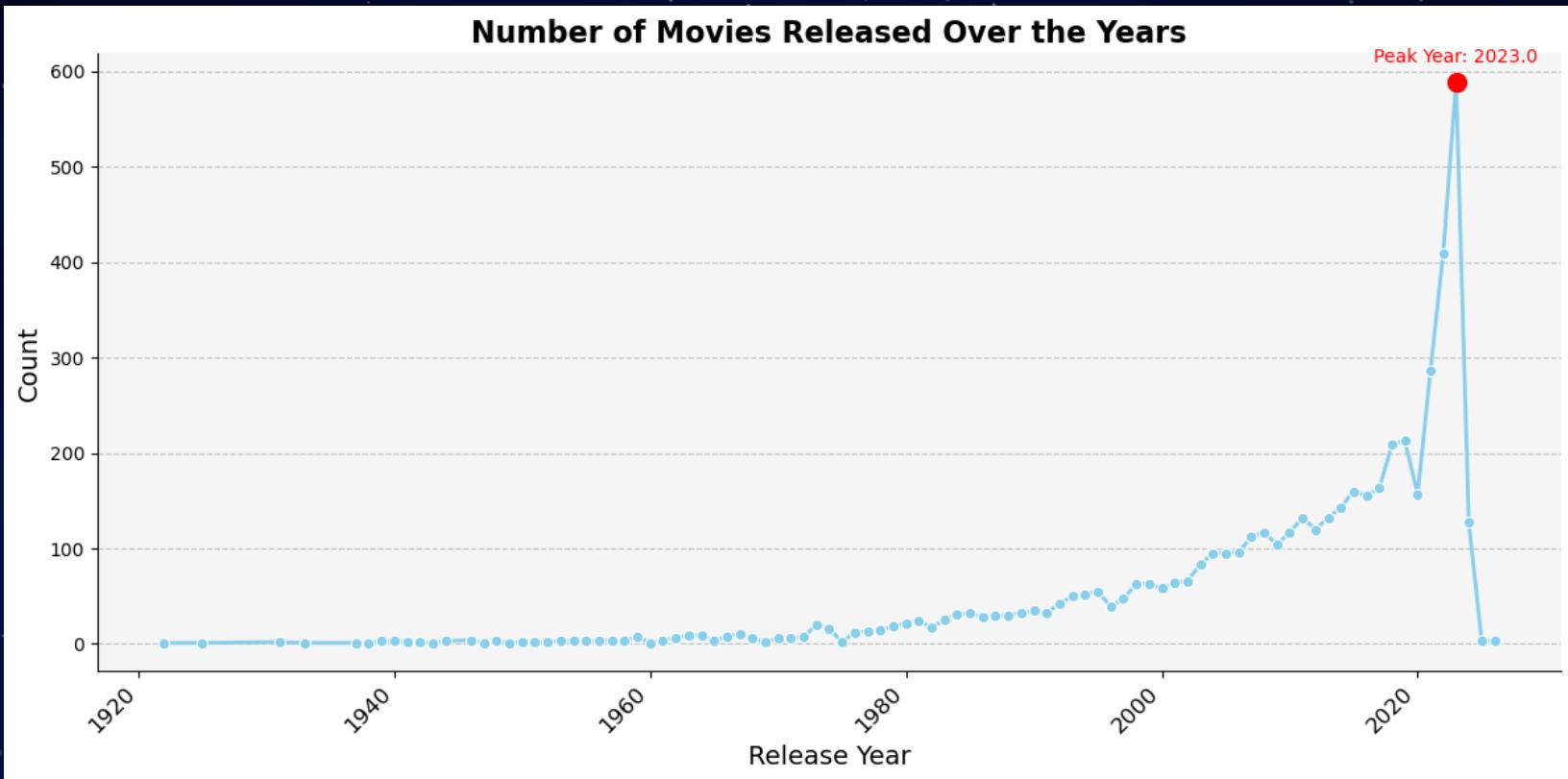
Distribution of Numerical Features



Distribution of Genres

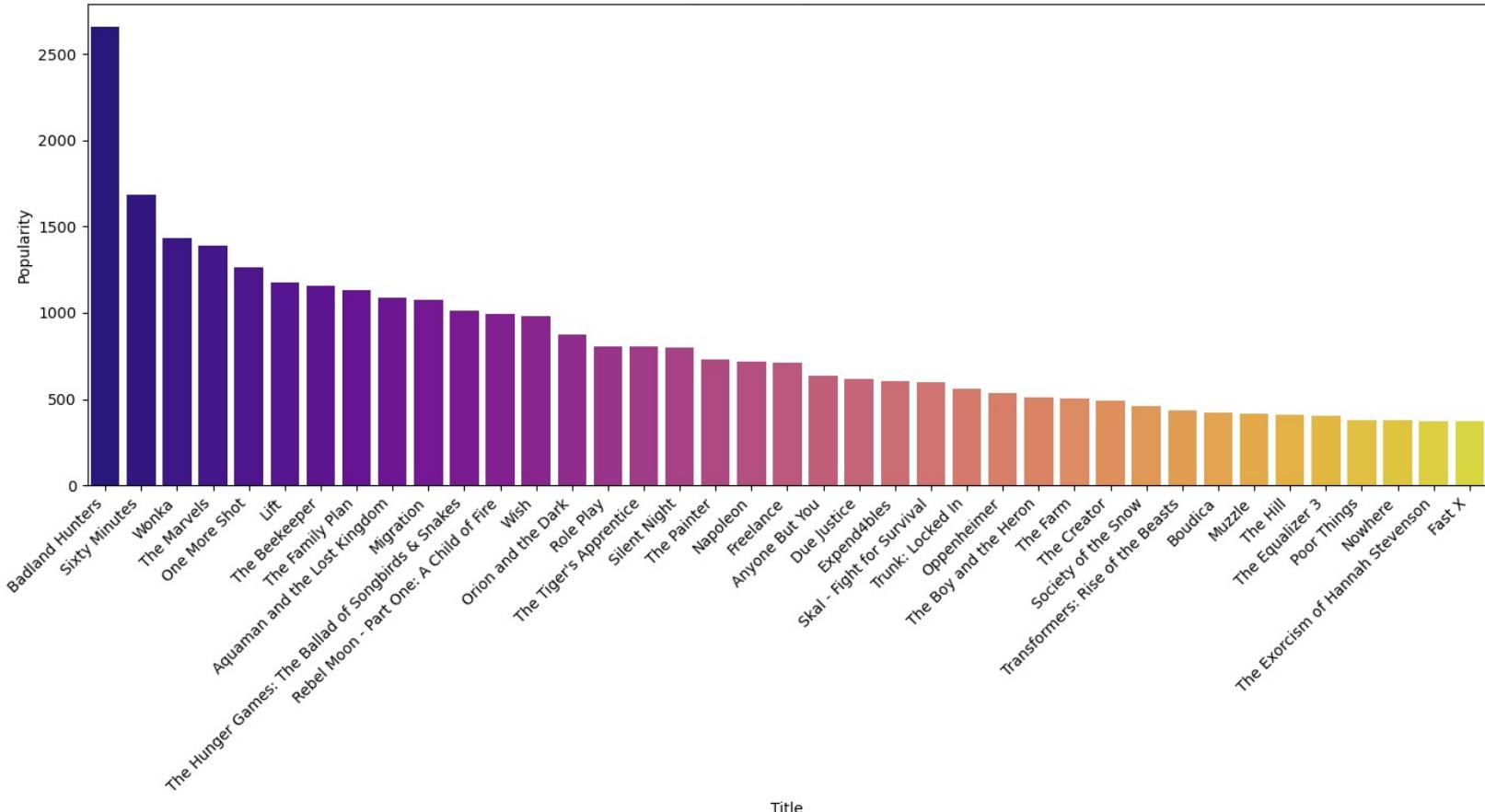


Line Plot Movie Release



Most Popular Movie Title (2/16/2024)

Top 40 Most Popular Titles

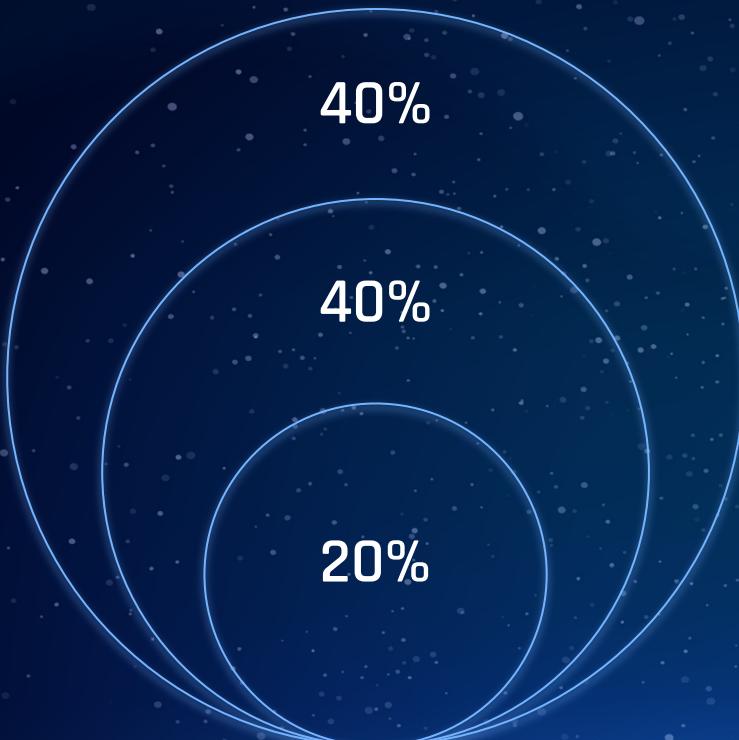




04

Data Filtering Techniques

Data Filtering Technique



Collaborative Filtering (40%)

Analyzes the historical interactions between users and movies. By identifying users with similar preferences and behaviors, the system can recommend movies that align with a user's taste.

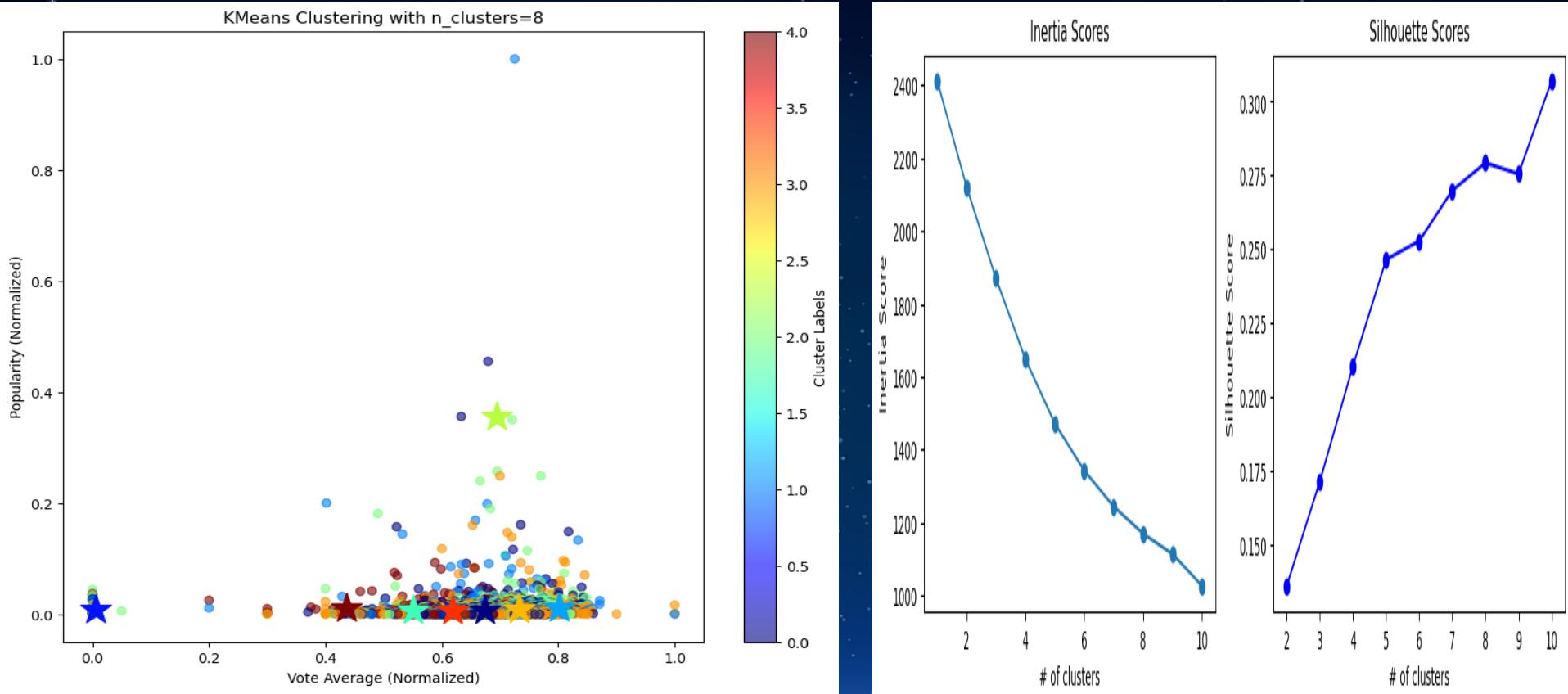
Content Based Filtering (40%)

Recommends items by analyzing their inherent characteristics such as genres, directors, release years, overview, and actors.

Content Genre Clustering (20%)

Apply clustering algorithms (K-means) to group movies based on their shared characteristics without predefined label, to help identify similar genres that might be recommended together.

Deciphering Optimal Cluster





05

Streamlit Demo

INITIATING SYSTEM 1....

CONNECTING
CONNECTED 15:56:05





06

Evaluation Summary and Conclusion

Conclusion

Collaborative

Well-suited for users with clear preferences and substantial interaction history.



Content Based

Effective for users with specific preferences for genres, directors, or actors/actresses



Genre Cluster

Useful for identifying clusters of movies with shared characteristics.



Improvements

Consider hybrid models combining collaborative and content-based filtering for a more comprehensive approach.



Fine-Tuning

Fine-Tuning of Genre Cluster Approach through using DBSCAN



Future

Develop a version of a chatbot using Gensim models to understand and respond to user preferences and feedback.



Thanks!

Do you have any questions?

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