

# Leveraging Large Language Models for Goal-aware Interactive Recommendations



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## Large language models for recommendation

We leverage LLMs generative capacity for **recommendation**, **explanation**, and **alignment with predefined goals** in the context of movie recommendation by disguising ChatGPT as a recommender.

## Interactive recommendation with user-defined goals

Our recommender system collects movie **preferences** and **recommendation intentions** from users, passes these to ChatGPT and requests recommendations based on the given input.

ChatGPT generates **recommendations and explanations**. Explanations can be personalized based on the input given, or generic, i.e., only based on the movie.

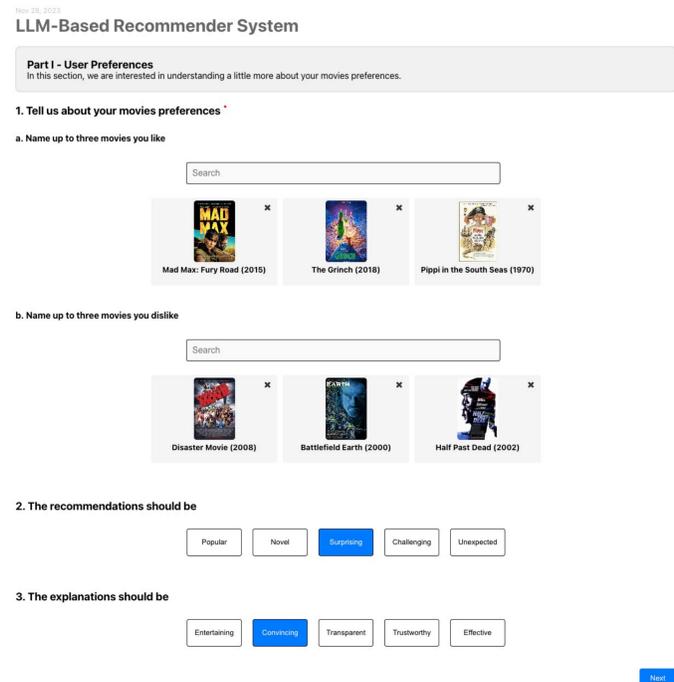


Figure: The user interface of our recommender system with given user preferences

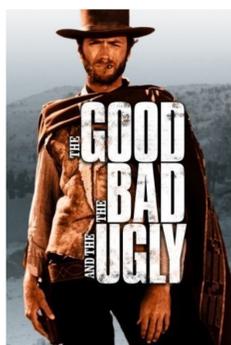
## GPT Recommendation



**Personalized Explanation**  
The Shawshank Redemption is a classic movie that tells the story of a man who is wrongly convicted of murder and sent to prison. It's a movie about hope, friendship, and the power of the human spirit. If you enjoyed the themes of friendship and loyalty in Harry Potter and the Goblet of Fire, the mind-bending plot of Inception, and the sports documentary Johan Crujff-En un momento dado, then you will definitely appreciate the depth and complexity of The Shawshank Redemption. On the other hand, if you disliked the superhero movie Doctor Strange, the action-packed IMAX Presents: Ant-Man and the Wasp, and the romantic drama Titanic, then you may find The Shawshank Redemption to be a refreshing change of pace.

**Generic Explanation**  
The Shawshank Redemption is a must-watch movie for anyone who loves a good story. It's a powerful and emotional tale of hope, friendship, and redemption that will leave you feeling inspired. The film is beautifully shot and features outstanding performances from its cast, including Tim Robbins and Morgan Freeman. The story is gripping and will keep you on the edge of your seat until the very end. If you're looking for a movie that will make you think, feel, and appreciate the power of the human spirit, then The Shawshank Redemption is definitely worth watching.

## Random Recommendation



**Personalized Explanation**  
The Good, the Bad and the Ugly is a classic western movie that features a thrilling story, iconic characters, and an unforgettable soundtrack. If you enjoy movies with a strong sense of adventure and a well-crafted plot, then this movie is definitely worth watching. Additionally, if you appreciate movies that have a unique style and a distinct visual flair, then you will likely enjoy The Good, the Bad and the Ugly. While this movie may not have any direct similarities to the movies you listed as your favorites or dislikes, it is a timeless classic that has stood the test of time and is widely regarded as one of the greatest movies ever made.

**Generic Explanation**  
The Good, the Bad and the Ugly is a classic western movie that is worth watching for its iconic characters, memorable soundtrack, and epic showdowns. The film follows three gunslingers who are in search of a buried treasure during the American Civil War. The movie is known for its stunning cinematography and intense action scenes. If you enjoy westerns or are a fan of director Sergio Leone's work, you will definitely appreciate this masterpiece. Additionally, the film has influenced many other movies and pop culture references, making it a must-see for any film buff.

## Colors descriptions

- Comparison with liked movies
- Comparison with disliked movies
- Emotion related arguments
- Movie plot description

Figure: The explanations provided by our system, color-coded to highlight what aspect of the given input it corresponds to.

## User study

We conducted a user study (n=94) comparing ChatGPT-generated recommendations to random (popular) recommendations.

Each recommendation was accompanied by an explanation. Explanations were either personalized according to the preferences of the user, or only based on the movie itself.

## Conclusion

The results of the study indicate that the explanations and recommendation generated by our ChatGPT-driven recommender are well-received by the study participants.

**LLM-based personalized explanations stood out as clearly preferred**, especially when recommendation were random. This indicates that the **explanations have high impact on the perceived quality of recommendations**.

A comprehensive analysis of the user study is currently under review.

Read the paper



Technical details



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