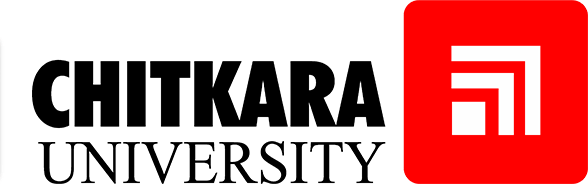
Artificial Intelligence and Machine Learning

Project Report Semester-IV (Batch-2022)

**Build a Movie Recommender System**

**Movielens Dataset**



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ABSTRACT

The exponential growth of digital media platforms has led to an overwhelming abundance of content, making it increasingly challenging for users to discover movies that align with their preferences. Movie recommender systems powered by Artificial Intelligence and Machine Learning (AIML) have emerged as indispensable tools in addressing this issue. This project focuses on developing an AIML-based movie recommender system aimed at enhancing user satisfaction and engagement.

The primary objective of this project is to design and implement a robust movie recommendation engine capable of delivering personalized suggestions tailored to individual user preferences. Leveraging state-of-the-art machine learning algorithms, including collaborative filtering, content-based filtering, and hybrid approaches, the system analyzes user behavior, historical preferences, and movie attributes to generate accurate recommendations.

Key components of the proposed movie recommender system include data preprocessing, feature extraction, model training, and recommendation generation. Through extensive experimentation and evaluation, the effectiveness and efficiency of different recommendation algorithms are assessed, with a focus on optimizing recommendation quality while minimizing computational overhead.

Furthermore, the project explores innovative techniques such as sentiment analysis, genre clustering, and contextual information integration to enhance the relevance and diversity of movie recommendations. By incorporating user feedback mechanisms and adaptive learning capabilities, the system continuously refines its recommendation strategies, ensuring adaptive responsiveness to evolving user preferences.

The practical implementation of the movie recommender system involves the development of a user-friendly interface, facilitating seamless interaction and feedback collection. Additionally, the system's scalability and performance are evaluated through real-world deployment scenarios, considering factors such as user base size, content diversity, and platform compatibility.

Ultimately, this AIML-based movie recommender project aims to revolutionize the way users discover and consume movies, providing them with a personalized and enriching entertainment experience. By harnessing the power of artificial intelligence and machine learning, the system empowers users to navigate the vast landscape of cinematic content with ease and confidence, fostering greater satisfaction and engagement within the digital media ecosystem.