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Project Proposal

Personalized Movie Recommendation System

Topic:

This project aims to develop a personalized movie recommendation system based on user preferences utilizing machine learning.

Business Problem:

Businesses have a challenge of providing tailored movie recommendations to users. This project will address the challenge of helping users discover relevant and enjoyable movies. Having better movie recommendations can enhance user engagement and satisfaction on movie platforms.

Datasets:

The data for this project will be sourced from The Movie Database (TMDb), a detailed movie database containing information on titles, ratings, genres, and more. The dataset has over 1,000,000 movies from TMDb.

Methods:

The methods that I will use will include:

- Data Cleaning – Handling missing values and feature engineering.
- Exploratory Data Analysis – Understand and identify trends and correlations.
- Modeling – Create a recommendation model to suggest movies based on user preferences.
- Model Evaluation – Evaluate model performance using metrics such as F1 score, precision, and recall.
- Analysis – Analyze model results.

Ethical Considerations:

Potential ethical concerns for this project would include privacy issues related to user data, algorithmic biases that may affect recommendation outcomes, and the impact of recommendations on user preferences.

Challenges/Issues:

The types of challenges that could be faced include:

- Data Quality – Dealing with incomplete data, making sure it's reliable for making accurate recommendations.
- Scalability – Designing recommendation systems to handle large volumes of data.
- Complexity – Making sure the recommendation system isn't too overwhelming for users.

References:

To validate my results, I can use academic research papers, publications, and online resources on topics such as recommendation systems and machine learning algorithms.