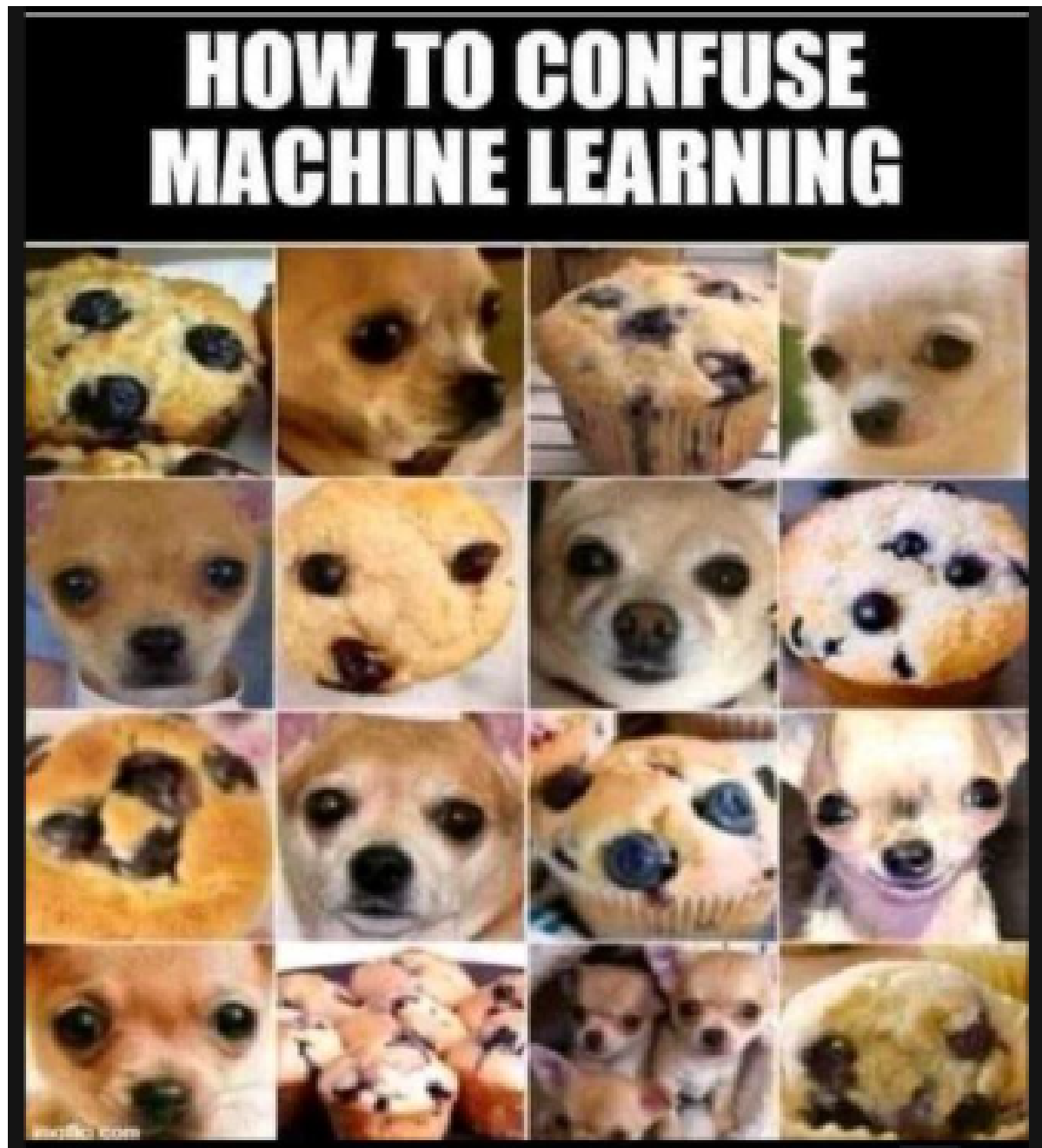


Task 7

Recommendation System



Notebook Steps In Details:

1. Reading the CSV files:

- The movie data is read from the "movies.csv" file.
- The user ratings data is read from the "ratings.csv" file.

2. Dropping unwanted columns:

- Unwanted columns, such as "genres" in the movie data and "timestamp" in the user ratings data, are dropped to focus on relevant information.

3. Merging dataframes:

- The movie data and user ratings data are merged based on the common column "movieId" to create a consolidated dataframe.

4. Creating similarity matrix:

- A pivot table is created from the merged dataframe to represent user ratings for each movie.
- NaN values are filled with zeros to indicate missing ratings.
- This pivot table serves as the basis for computing the similarity matrix.

5. Computing similarity scores using cosine similarity score:

- Cosine similarity is calculated between movies based on the user ratings.
- The similarity matrix is obtained, representing the pairwise similarity between movies.

6. Getting the top ten movies similar to "Toy Story (1995)":

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- The movie "Toy Story (1995)" is selected as a reference.
 - The similarity scores between "Toy Story (1995)" and other movies are retrieved from the similarity matrix.
 - The top ten movies with the highest similarity scores to "Toy Story (1995)" are identified.

7. Getting the top ten movies similar to "Waiting to Exhale (1995)":

- The movie "Waiting to Exhale (1995)" is chosen as another reference.
- The similarity scores between "Waiting to Exhale (1995)" and other movies are extracted from the similarity matrix.
- The top ten movies with the highest similarity scores to "Waiting to Exhale (1995)" are determined.

8. Recommending 3 movies to a certain user based on his ratings:

- The user's ratings for movies are available.
- Using the similarity matrix, movies similar to the ones the user rated highly are identified.
- The top three recommended movies with the highest similarity scores to the user's rated movies are suggested.

This report outlines the steps involved in building a movie recommendation system using collaborative filtering and cosine similarity. It covers data preparation, similarity calculation, and movie recommendations based on user ratings.