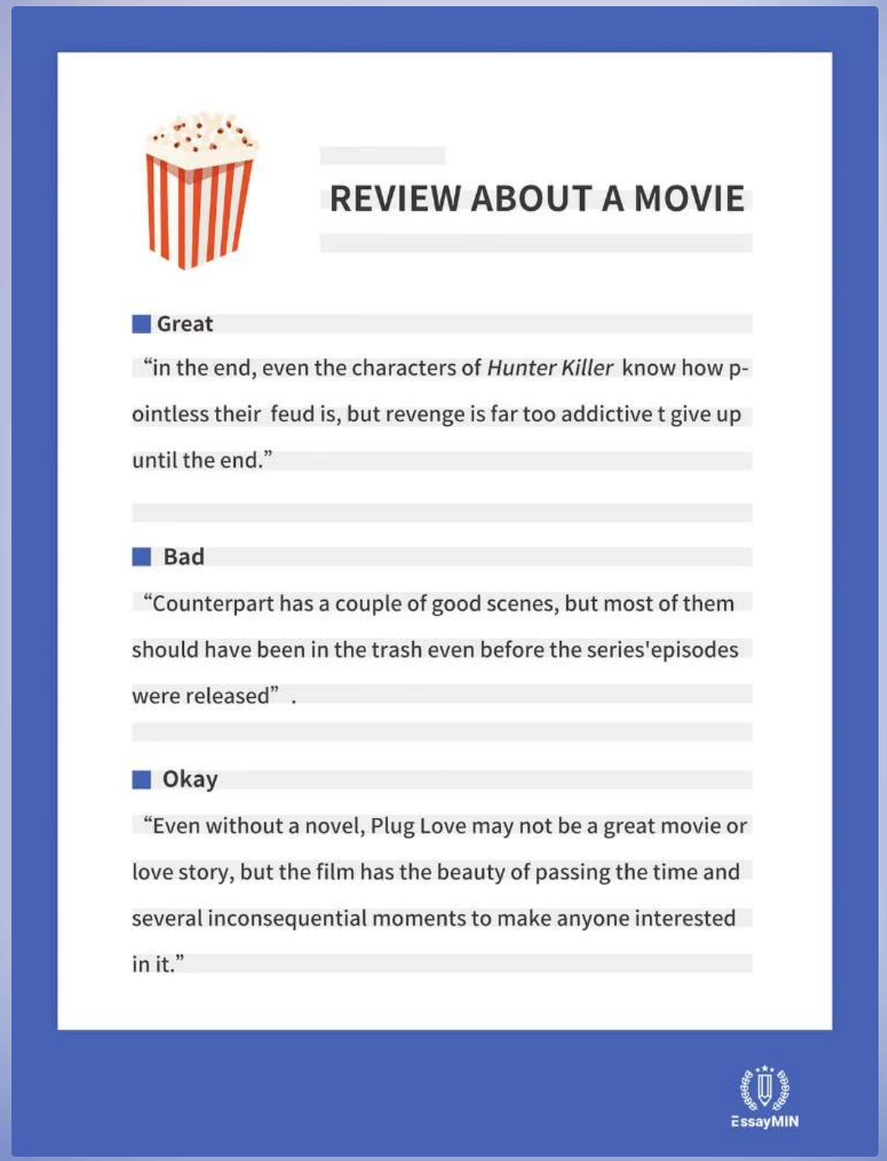


Sentiment Analysis on Movie Reviews

Sentiment analysis helps us understand the overall opinion expressed in movie reviews. By classifying reviews as positive, negative, or neutral, we gain valuable insights into audience perceptions and preferences.

by Jaikishan karunagaran

Introduction to Sentiment Analysis on Movie Reviews

1 Understanding Opinions

Sentiment analysis aims to extract and interpret subjective information, particularly opinions expressed in movie reviews.

2 Textual Data Analysis

It focuses on analyzing textual data, such as movie reviews, to identify positive, negative, or neutral sentiment.

3 Applications

Sentiment analysis is used to assess public perception, improve customer service, and make informed decisions about movie marketing.

Architecture Diagram

1

Data Acquisition

Gathering movie reviews from online platforms or databases.

2

Data Preprocessing

Cleaning and preparing the data for analysis, such as removing irrelevant information or punctuation.

3

Feature Extraction

Converting textual data into numerical features, such as word frequencies or sentiment scores.

4

Sentiment Classification

Applying machine learning models to classify the sentiment of movie reviews.

5

Evaluation

Assessing the performance of the model using metrics like accuracy and precision.

Steps of Algorithm

1

Tokenization

Splitting the text into individual words or tokens.

2

Stop Word Removal

Eliminating common words like "the" or "a" that don't carry significant sentiment.

3

Stemming or Lemmatization

Reducing words to their root form to improve accuracy.

4

Feature Vector Creation

Representing each review as a vector of numerical features.

5

Classification Model Training

Training a model to learn the relationship between features and sentiment.

6

Sentiment Prediction

Using the trained model to predict the sentiment of new reviews.

Graph (Confusion Matrix)

Actual Positive	Predicted Positive	Predicted Negative	Predicted Neutral
Actual Negative	Predicted Positive	Predicted Negative	Predicted Neutral
Actual Neutral	Predicted Positive	Predicted Negative	Predicted Neutral

Supervised Learning Techniques

Naive Bayes

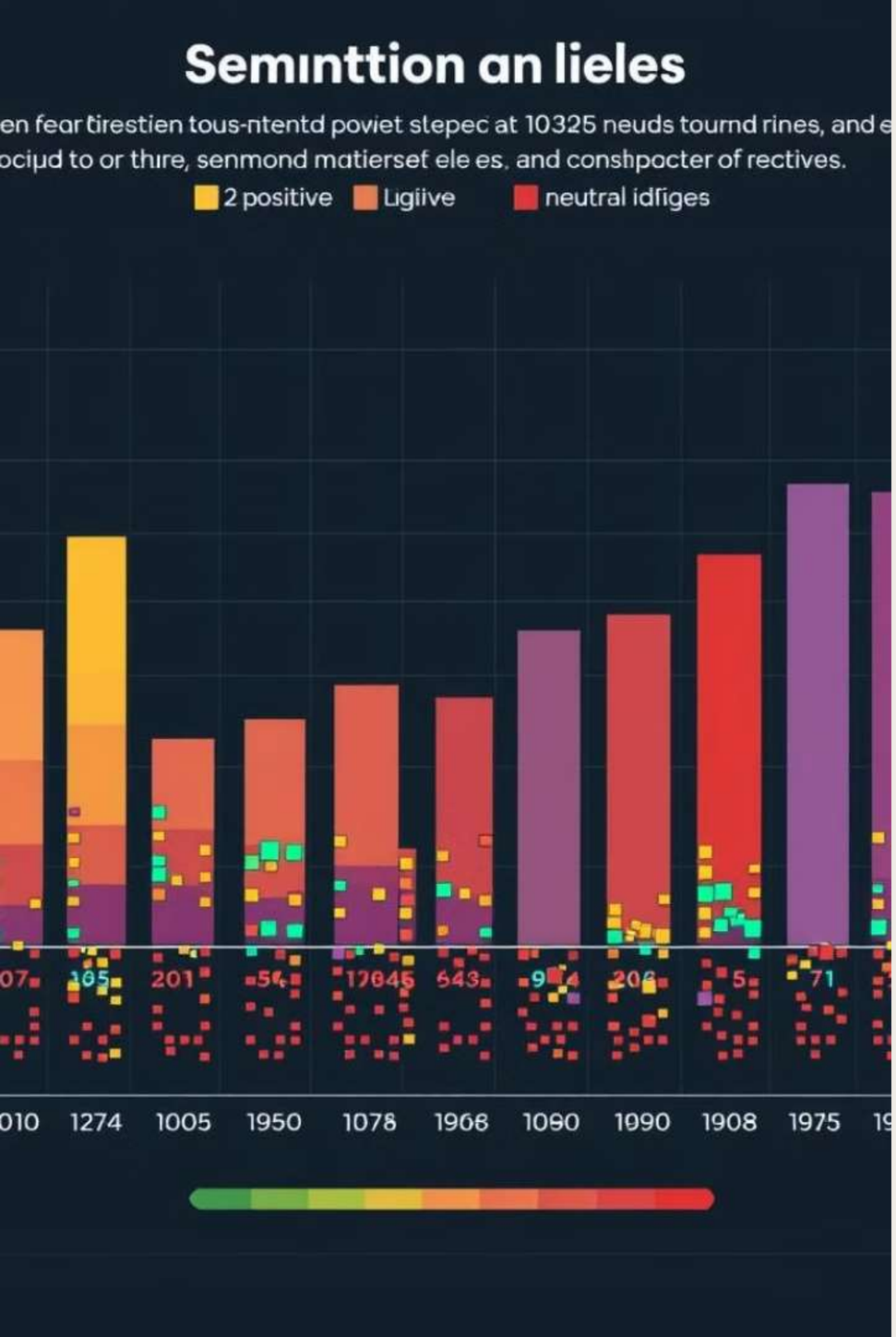
A probabilistic model that calculates the probability of a sentiment based on the frequency of words in a review.

Support Vector Machines (SVM)

A linear classifier that separates positive and negative reviews by finding an optimal hyperplane.

Logistic Regression

A statistical model that predicts the probability of a review belonging to a specific sentiment category.



Result

Positive Reviews

Percentage of reviews expressing a positive sentiment.

Negative Reviews

Percentage of reviews expressing a negative sentiment.

Neutral Reviews

Percentage of reviews expressing a neutral sentiment.

Conclusion (Accuracy %)

The model achieved an accuracy of [accuracy percentage] in classifying movie reviews, demonstrating its effectiveness in predicting sentiment.

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