

Logistic Regression

Logistic Regression is a supervised learning algorithm used for classification. It predicts probabilities using the sigmoid function and assigns the input to one of the classes based on a threshold (usually 0.5). It works well when there’s a linear relationship between features and the target.

Random Forest

Random Forest is an ensemble algorithm that builds multiple decision trees and aggregates their results to improve prediction accuracy and stability. It reduces overfitting and performs well on non-linear data.

Comparison

Model	Nature	Strengths	Weaknesses
Logistic Regression	Linear	Fast, interpretable	Limited for non-linear data
Random Forest	Non-linear, ensemble	Handles complexity, reduces overfitting	Slower, less interpretable

Accuracy and confusion matrices help determine which model better classifies sentiment in tweets.