

Bayes' Rule:

Bayes' theorem provides a way to revise existing predictions or theories (update probabilities) given new or additional evidence.

Binomial Distribution Formula:

$$P(A|B) = \frac{P(A \cap B)}{P(B)} = \frac{P(A) \cdot P(B|A)}{P(B)}$$

$P(A)$ = The probability of A occurring

$P(B)$ = The probability of B occurring

$P(A|B)$ = The probability of A given B

$P(B|A)$ = The probability of B given A

$P(A \cap B)$ = The probability of both A and B occurring

Summary

Probability looks at the likelihood of one event occurring.

Bayes' Theorem allows you to update the predicted probabilities of an event by incorporating new information.