



Naive Bayes Classifier:

**Simple, effective and
efficient.**

A short introduction by Jack Ogilvie-Richards



What's the point?



Basic Formula

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





Clearer...

The diagram illustrates Bayes' Theorem with the following components:

- LIKELIHOOD**: the probability of "B" being TRUE given that "A" is TRUE. This is represented by the term $P(B|A)$ in the numerator, highlighted in an orange box.
- PRIOR**: the probability of "A" being TRUE. This is represented by the term $P(A)$ in the numerator, highlighted in a teal box.
- POSTERIOR**: the probability of "A" being TRUE given that "B" is TRUE. This is represented by the entire fraction $P(A|B) = \frac{P(B|A)P(A)}{P(B)}$, with the result $P(A|B)$ highlighted in a yellow box.
- The probability of "B" being TRUE**: This is represented by the term $P(B)$ in the denominator, highlighted in a pink box.

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


Simpler!

GAMES	OUTDOOR?
	1
	1
	1
	0

#MLmuse
CLAIRVOYANT

Funnier...



BAYES THEOREM

$$\overset{\text{Posterior probability}}{p(A|B)} = \frac{\overset{\text{Likelihood}}{p(B|A)} \overset{\text{Prior probability}}{p(A)}}{p(B)}$$



BAE'S THEOREM

$$P(\text{chill}|\text{Netflix}) = \frac{P(\text{Netflix}|\text{chill})P(\text{chill})}{P(\text{Netflix})}$$