

Bayes Rule

Bayes Rule : Given an initial prediction if we gather additional related data, we can improve the prediction

In Bayes rule:

- you often have a **hidden variable** which you can't measure directly but instead have a test for it.
- you have a **prior** (how frequent this variable is true).
- a **test** which is often characterised by how often it says (pos) when variable is true and (neg) when variable is false.
- you take the prior and **multiply** by the test to get a new **variable**.
- you add up your new **total probability variable**.
- divide them together and get the **best estimate** of probability.

EX: testing the probability of having cancer.

