Bayes Theorem: Takeaways

Concepts

- Independence, dependence, and exclusivity describe the relationship between events (two or more events), and they have different mathematical meanings:

- If two events are **exhaustive**, it means they make up the whole sample space .
- **The law of total probability** can be expressed mathematically as:

- The law of total probability is often written using the summation sign :

- For any events A and B, we can use **Bayes' theorem** to calculate P(A|B):

- P(A|B) is the **posterior probability** of A *after* B happens ("posterior" means "after"). P(A) is the **prior probability** of A *before* B happens ("prior" means "before").

Resources

- An intuitive approach to understanding Bayes' theorem
- False positives, false negatives, and Bayes' theorem