2025/11/03 17:33 1/1 Conditional probability

Conditional probability

How can we calculate the result in a case where two events are not independent. It means that, if one event occurs it will directly affect the probability for the other event?

If event A and B are those kind of complex events which will not exclude each other. In this case we have a so-called conditional probability (event A affects event B).

Notation: \(p(A | B) \)

In this case we mean the relative frequency which compares the sum of all probability to the probability of event B (probability of it's occurrance).

So we can get to the conclusion:

$$$$ p(A \subset B) = p(A|B) p(B) $$$$

- 1.) $(p(A \subset B))$: This represents the probability that both events A and B occur simultaneously. It is also known as the probability of the intersection of A and B.
- 2.) (p(A|B)): This is the conditional probability of event A occurring given that event B has already occurred. It tells us how likely A s to happen under the condition that B has happened.

What the Formula Says?

The formula states that the probability of both events A and B occurring together, is equal to the probability of B occurring multipliend by the probability of A occurring given that B has already occured.

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