Statistics for Data Science -1

Lecture 7.4: Conditional Probability: Independent events

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Learning objectives

1. Understand notion of conditional probability, i.e find the probability of an event given another event has occurred.

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3. Solve applications of probability.

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- In the cases where $P(E|F)$ is equal to $P(E)$, we say that E is independent of F.
  - In other words, event E is independent of event F if knowing whether F occurs does not affect the probability of E.

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Two events that are not independent are said to be dependent.

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- In other words, two events are independent if and only if the probability that both occur equals the product of their individual probabilities.
- The definition of independence for three or more events is more complicated than that for two events. We will discuss this later.

Section summary

- Independent events
- Multiplication rule for two independent events.