Daily Assessment format

Date: 17/06/2020
Course: Statistical learning
Topic: introduction to probability
* Rules for probability calculation
* Bayes theorem normal distribution

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foreneon session details

Report

probability

probability is the science of how likely events are to happen at its simplest, its concerned with the roll of dice, or the fall of the cards in games. probability is used for example in such diverse areas as wheather forecasting & to work out the cost of your insurance premiums.

Rules for probability calculation

→ two events are mutually exclusive or disjoint if they can't occur at the same time

→ the probability that event A occurs, given that event B has occured, is called a conditional probability. the conditional probability of event A, given event B, is denoted by the symbol p(A/B)

→ the complement of an event is the event not occuring, the probability that event A will not occur is denoted by p(A').

→ the probability that events A & B both occur is the probability of the intersection of A & B. the probability of the intersection of events A & B is denoted by p(A∩B). if events A & B are mutually exclusive, p(A∩B) = 0.

Rule of subtraction
- the probability of an event ranges from 0 to 1
- the sum of probabilities of all possible events equals 1
The Rule of subtraction follows directly from these properties

Rule of multiplication
- the rule of multiplication applies to the situation when we want to know the probability of the intersection of two events. That is, we want to know the probability that two events both occur.

Rule of addition
- the rule of addition applies to the following situation we have two events. & we want to know the probability event occur.

Bayes theorem
- In probability theory & statistics, Bayes theorem describes the probability of an event, based on prior knowledge of conditions that might be related to the event
- for ex: if the risk of developing health problems is known to increase with age, Bayes theorem allows the risk to an individual of a known age to be assessed more accurately than simply assuming that the individual is typical of the population as a whole
- one of the many applications of Bayes theorem is Bayesian inference, a particular approach to statistical inference. When applied, the probabilities involved in Bayes theorem may have different probability interpretations.

Normal distribution

→ Normal distribution, also known as the gaussian distribution, is a probability distribution that is symmetric about the mean, showing that data near the mean are more frequent in occurance than data far from the mean.

→ In graph form, normal distribution will appear as a curve, the normal distribution is the most common type of distribution assumed in technical stock market analysis & in other types of statistical analysis.

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Report
PHP debugging Tools
→ x debug: since it debuted in 2002, xdebug has become one of the most trusted php tools this open source tool enables single-step debugging & stack trace functionality Available as a plugin for eclipse PHP designer & most other development environments. xdebug is compatible with dozens of other frontend debugging tools.

→ debug bar: is a useful tool for any developer since it can catch HTML & Javascript bugs as well. additionally debug bar can monitor network traffic, inspect css elements & evaluate your Javascript code. that may be more features than you need, but it's pretty impressive for an open source tool

→ MacGDBp: As its name suggests, MacGDBp. was made specifically for debugging PHP on Mac. combine it with the xdebug extension to view local variables & call stacks in a macos interface.