Statistical properties

This section explains statistical properties in terms of event spaces and event frequencies. It covers how events in probability theory are analyzed, how their frequencies help determine probabilities, and how different event combinations (e.g., independent and mutually exclusive events) affect total probability.

Conditional probability

Explains conditional probability, focusing on how the probability of one event (A) is affected by the occurrence of another event (B). It provides the formula for calculating conditional probability, offers examples such as production defects and machine breakdowns, and demonstrates how to determine whether two events are independent.

Information

Explains the concept of information value, showing how less likely events carry higher information content, calculated using Shannon's formula. It introduces entropy as the average information content in a message set, which peaks when events are equally likely. Redundancy measures how much a message system deviates from maximum entropy

Syntax

Page discusses syntactical analysis in information theory, focusing on how information is structured and organized. It covers encoding methods like Shannon-Fano and highlights the importance of efficient data representation.