Why

Definition

The *differential cross entropy* of a second density with respect to a a first density is the integral of the second density against the negative log of the first density. Let R denote the set of real numbers. Let $f : R^n \to R$ and $g : R^n \to R$ be probability density functions. The differential cross entropy of f relative to g

$$- \int g \log f$$

We denote the differential cross entropy of f relative to g by $h(g, f)$.

Differential Cross Entropy

Differential Entropy

Multivariate Real Densities

N-Dimensional Space

Probability Densities

Distance

Real Integrals

Nonnegative Integrals

Simple Integrals

Measurable Functions

Measures

Sigma Algebras

Extended Real Numbers

Space Distance

Real Limits

Plane Distance

Absolute Value

Simple Functions

Entropy

Interval Length

Real Functions

Probability Distributions

Intervals

Logarithm

Real Space

Real Plane

Real Line

Integral Line

Real Order

Real Sequences

Real Summation

Geometry

Real Numbers

Sequences

Rational Numbers

Direct Products

Set Numbers

Integer Arithmetic

Finite Sets

Natural Additive Identity

Natural Multiplicative Identity

Natural Summation

Identity Elements

Arithmetic

Natural Powers

Family Operations

Equivalent Sets

Subset Algebras

Integer Products

Family Unions and Intersections

Function Inverses

Algebras

Set Operations

Natural Products

Integer Sums

Families

Function Images

Function Composites

Operations

Integer Numbers

Natural Sums

Functions

Equivalence Relations

Natural Order

Recursion Theorem

Relations

Cardinality

Peano Axioms

Cartesian Products

Subset Systems

Characteristic Functions

Uncertain Outcomes

Natural Induction

Ordered Pairs

Generalized Set Dualities

Set Powers

Natural Numbers

Set Unions and Intersections

Partitions

Intersection of Empty Set

Set Dualities

Unordered Triples

Successor Sets

Set Symmetric Differences

Set Intersections

Pair Unions

Set Complements

Pair Intersections

Set Unions

Set Differences

Unordered Pairs

Empty Set

Set Specification

Set Inclusion

Standardized Accounts

Accounts

Deductions

Quantified Statements

Logical Statements

Statements

Sets

Identities

Names

Letters

Objects